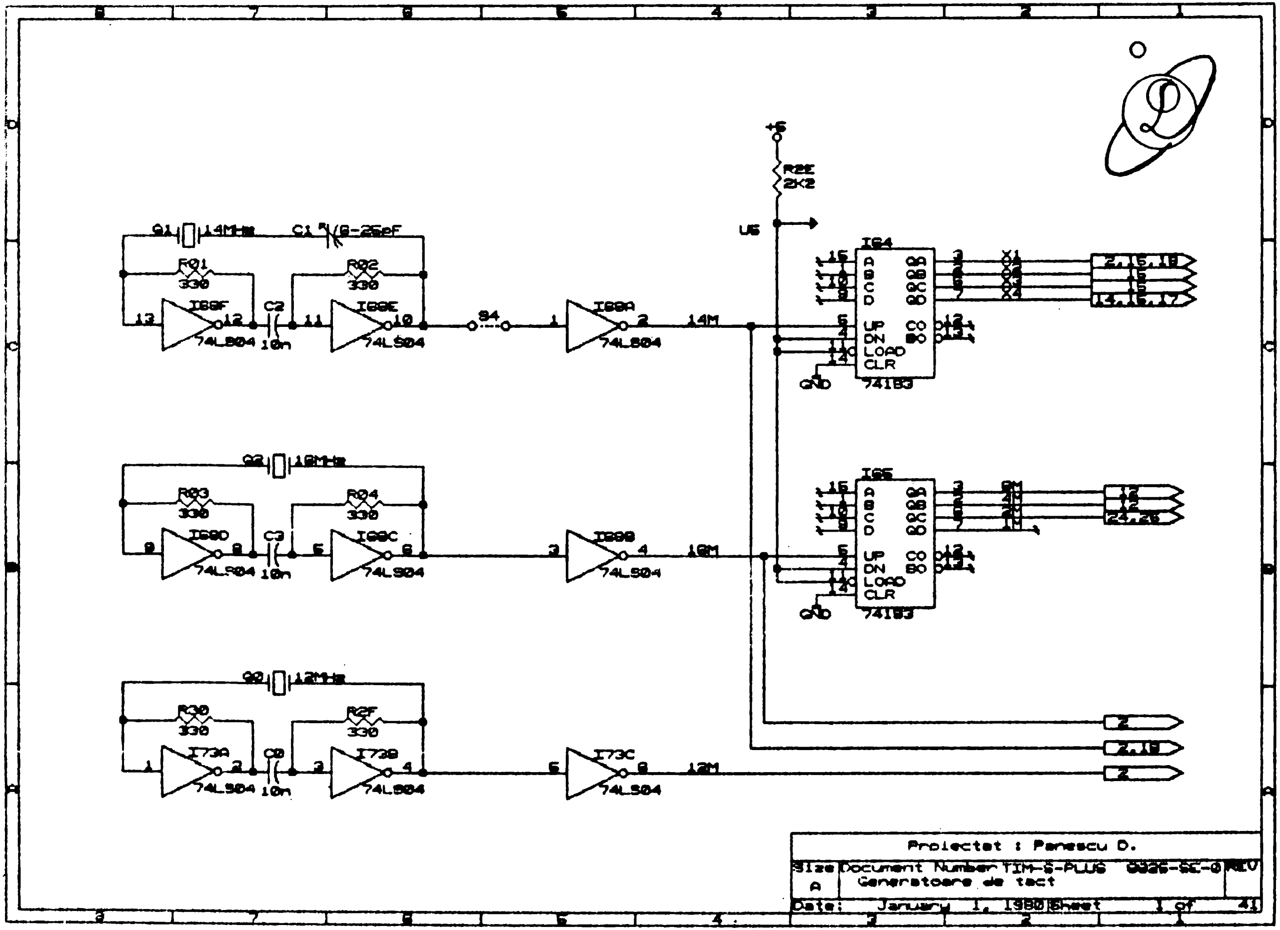
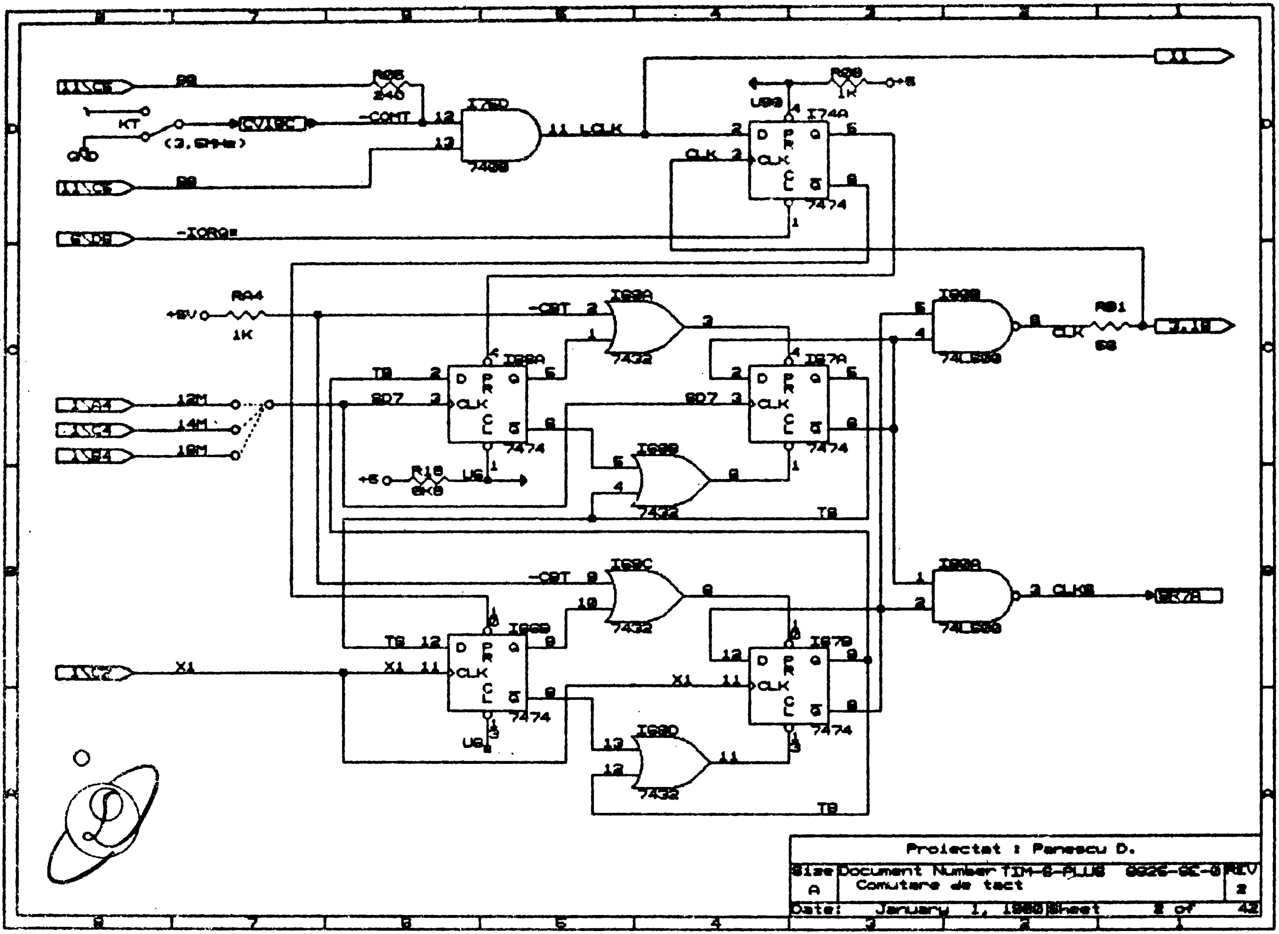
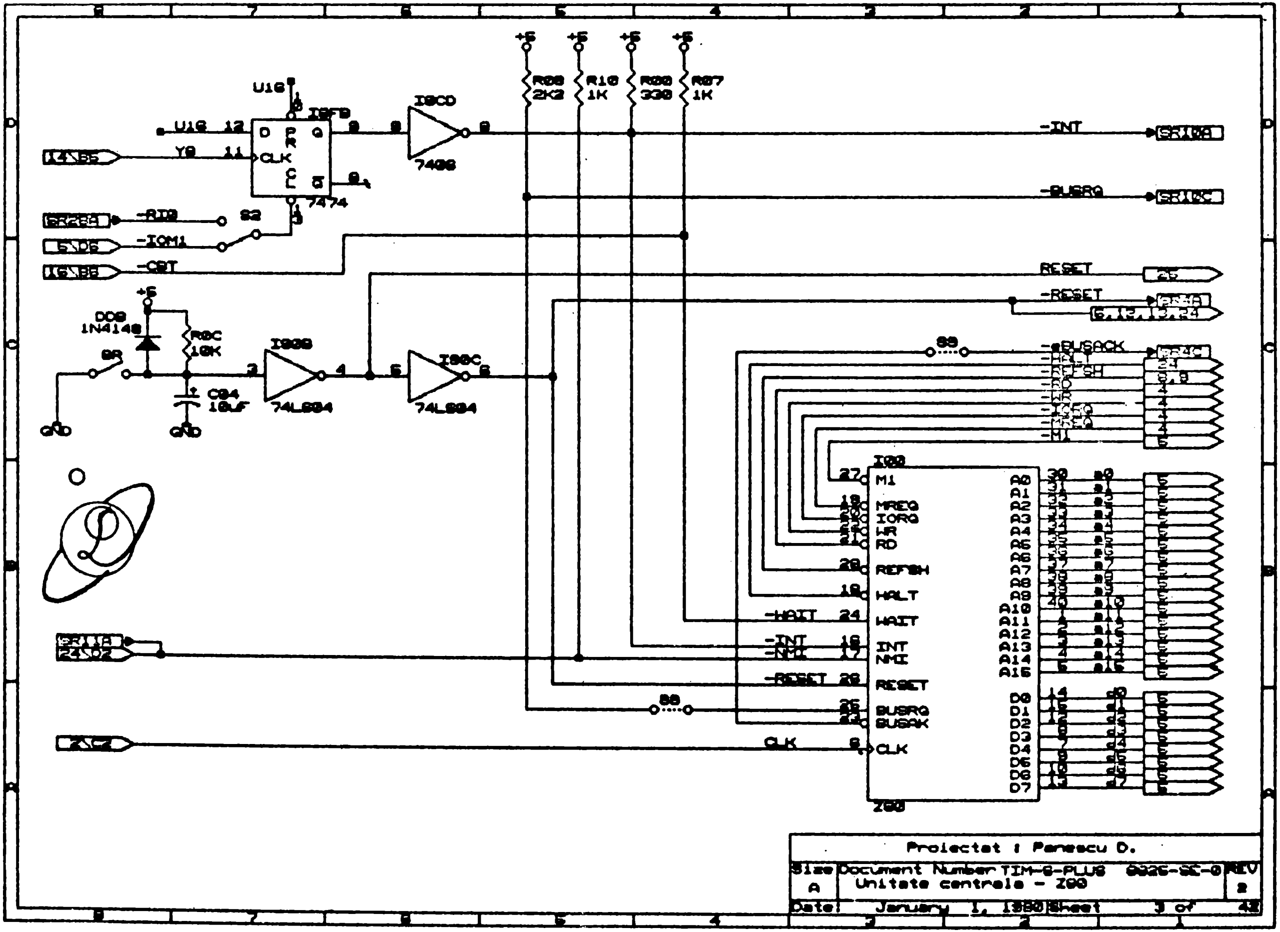

Q1 14MHz
C1 6-25pF
R01 330
R02 330
I68F 74LS04
C2 10n
I68E 74LS04
S4
I68A 74LS04
14M
+5
R2E 2K2
U5
I64
A B C D QA QB QC QD
UP DN LOAD CLR CO BO
GND
74193
X1 X2 X3 X4
2,15,18
15
15
14,16,17
Q2 10MHz
R03 330
R04 330
I68D 74LS04
C3 10n
I68C 74LS04
I68B 74LS04
10M
I65
74193
5M
2M
1M
12
15
12
24,25
Q3 12MHz
R30 330
R2F 330
I73A 74LS04
C0 10n
I73B 74LS04
I73C 74LS04
12M
2
2,18
2
Proiectat : Panescu D.
Size A
Document Number TIM-S-PLUS 0025-SC-0
REV
Generatoare de tact
Date: January 1, 1980
Sheet 1 of 41

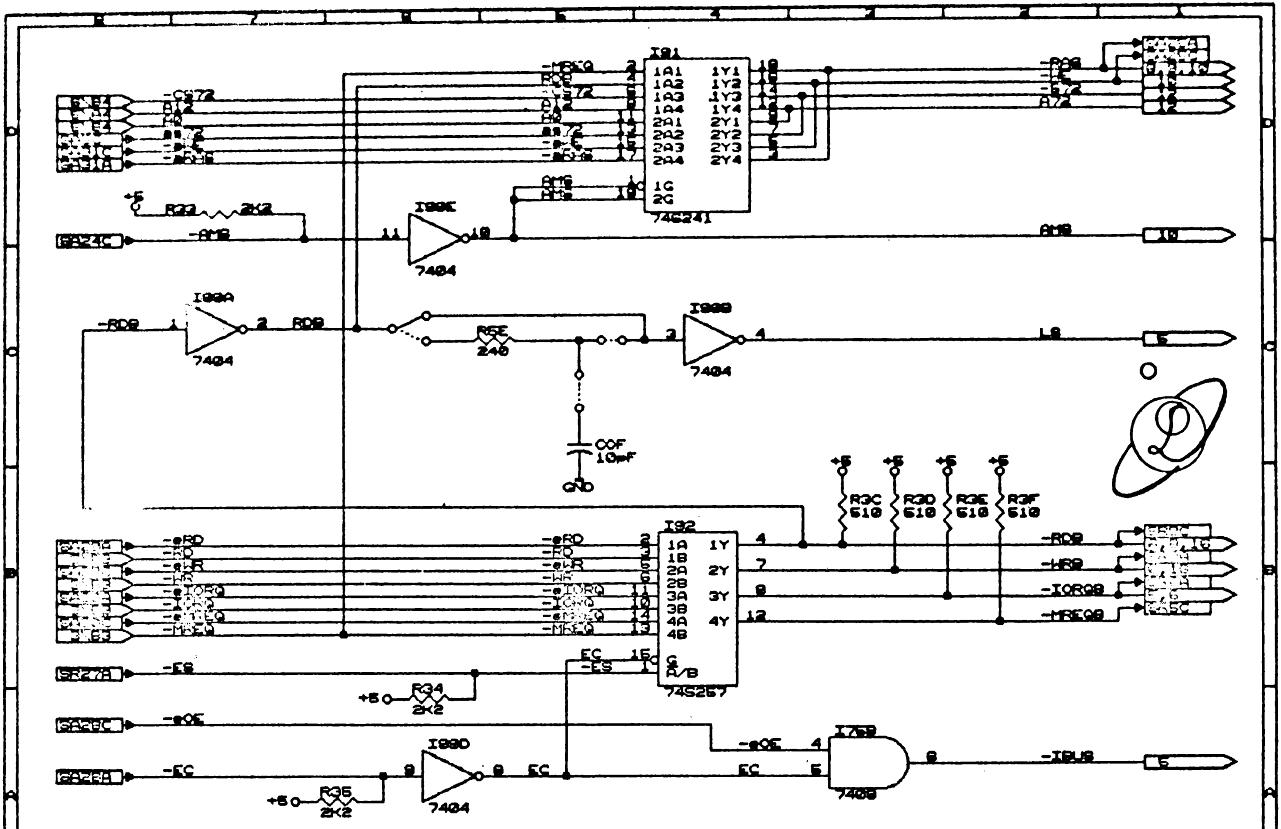


Proiectat : Panescu D.

Size	Document Number TIM-S-PLUS 0026-SE-0 Comutare de tact	REV
A		2

Date: January 1, 1980 Sheet 2 of 42


Proiectat : Panescu D.
Size A
Document Number TIM-S-PLUS 0026-SC-0
Unitate centrala - Z80
REV 2
Date: January 1, 1980 Sheet 3 of 43
7474
7400
74LS04
74LS04
Z80
-INT
-BUSRQ
RESET
-RESET
-BUSACK
-RIQ
-IOM1
-CBT
1N4148
R0C 10K
C04 10uF
GND
+5
M1
MREQ
IORQ
WR
RD
REFSH
HALT
WAIT
INT
NMI
RESET
BUSRQ
BUSAK
CLK
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
D0
D1
D2
D3
D4
D5
D6
D7



Proiectat : Panescu D.

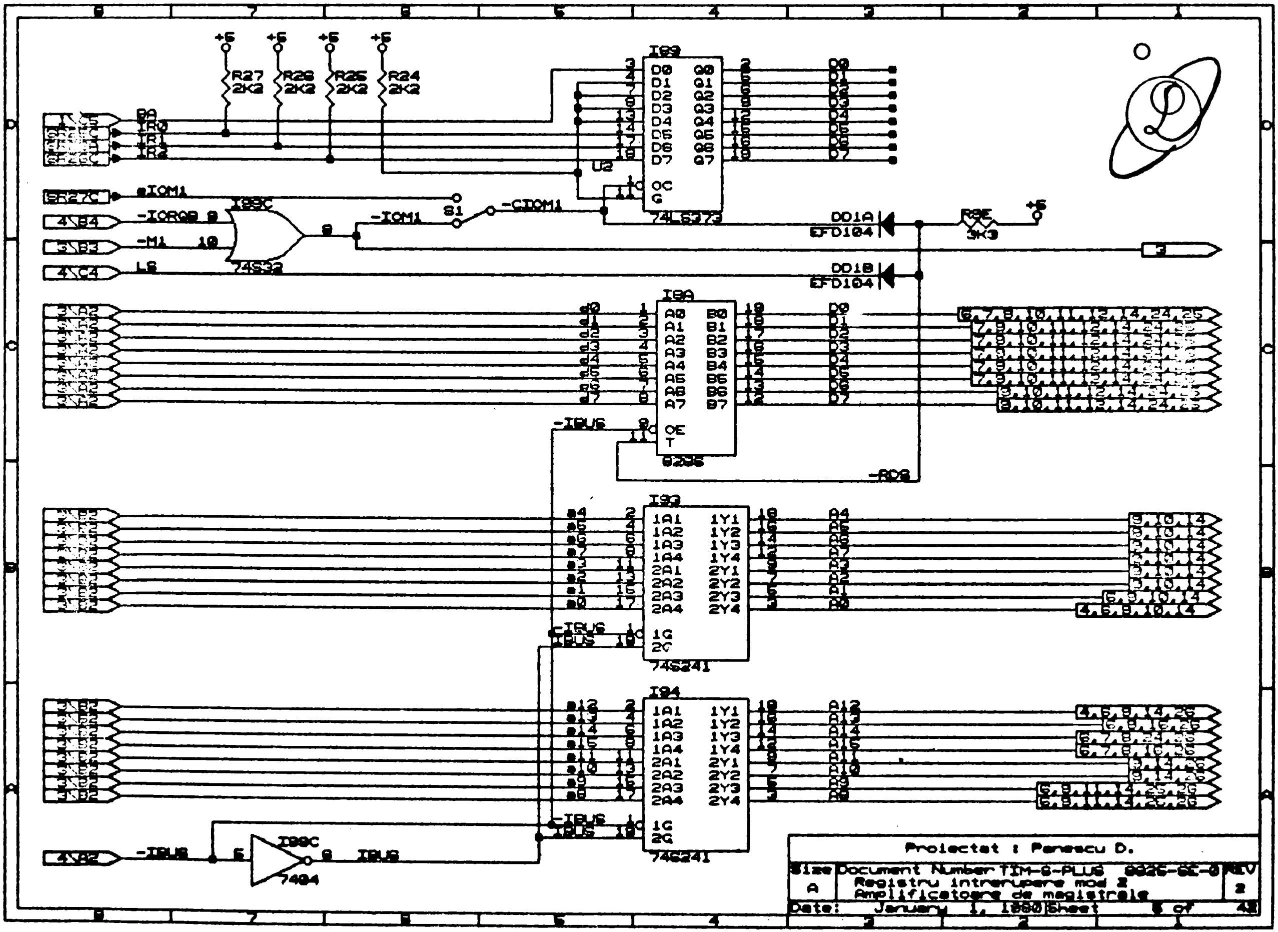
Size A

Document Number TIM-6-PLUS 0026-SE-0

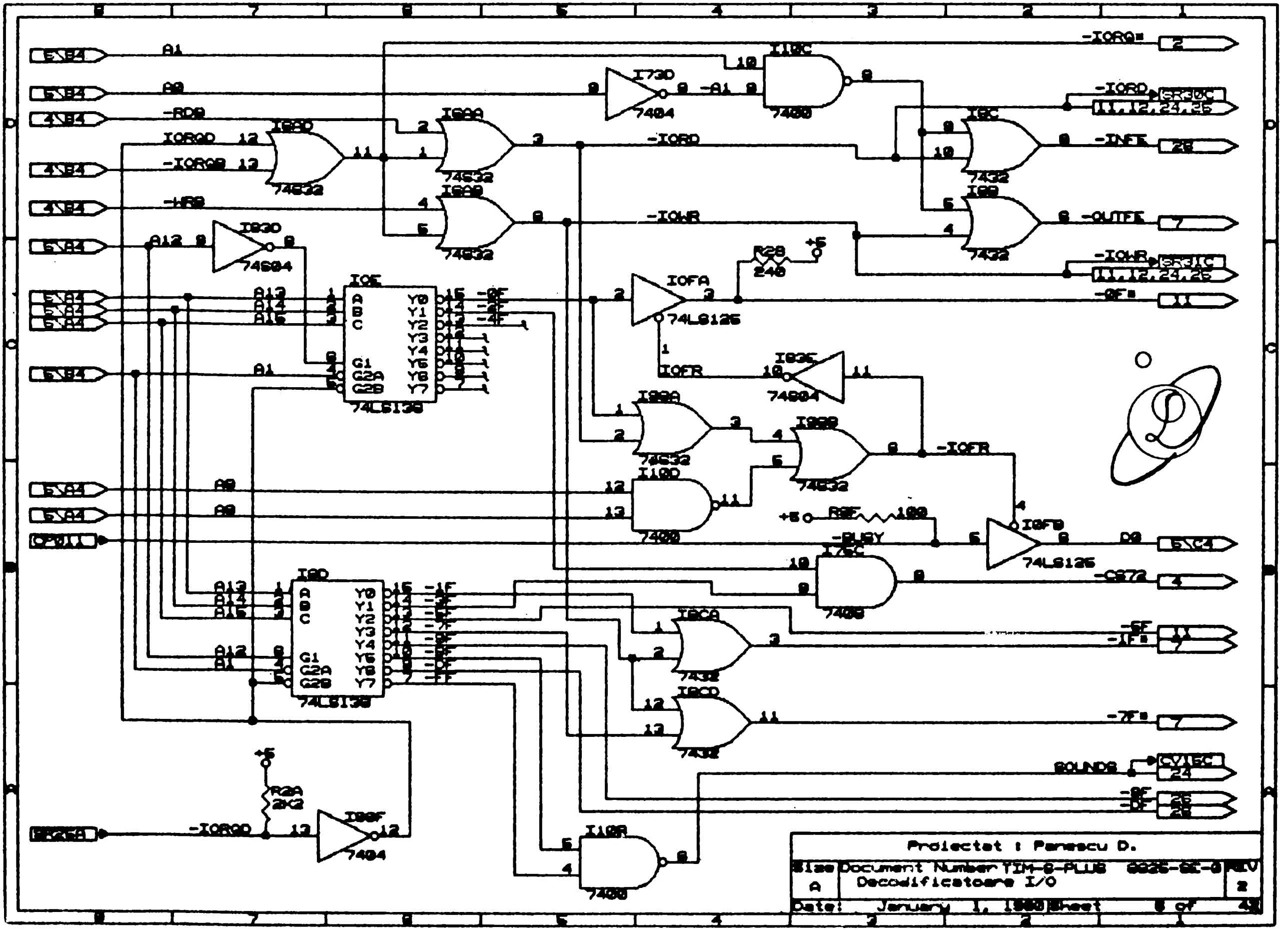
REV 3

Multiplexare magistrala de comenzi

Date: January 1, 1980 Sheet 4 of 42



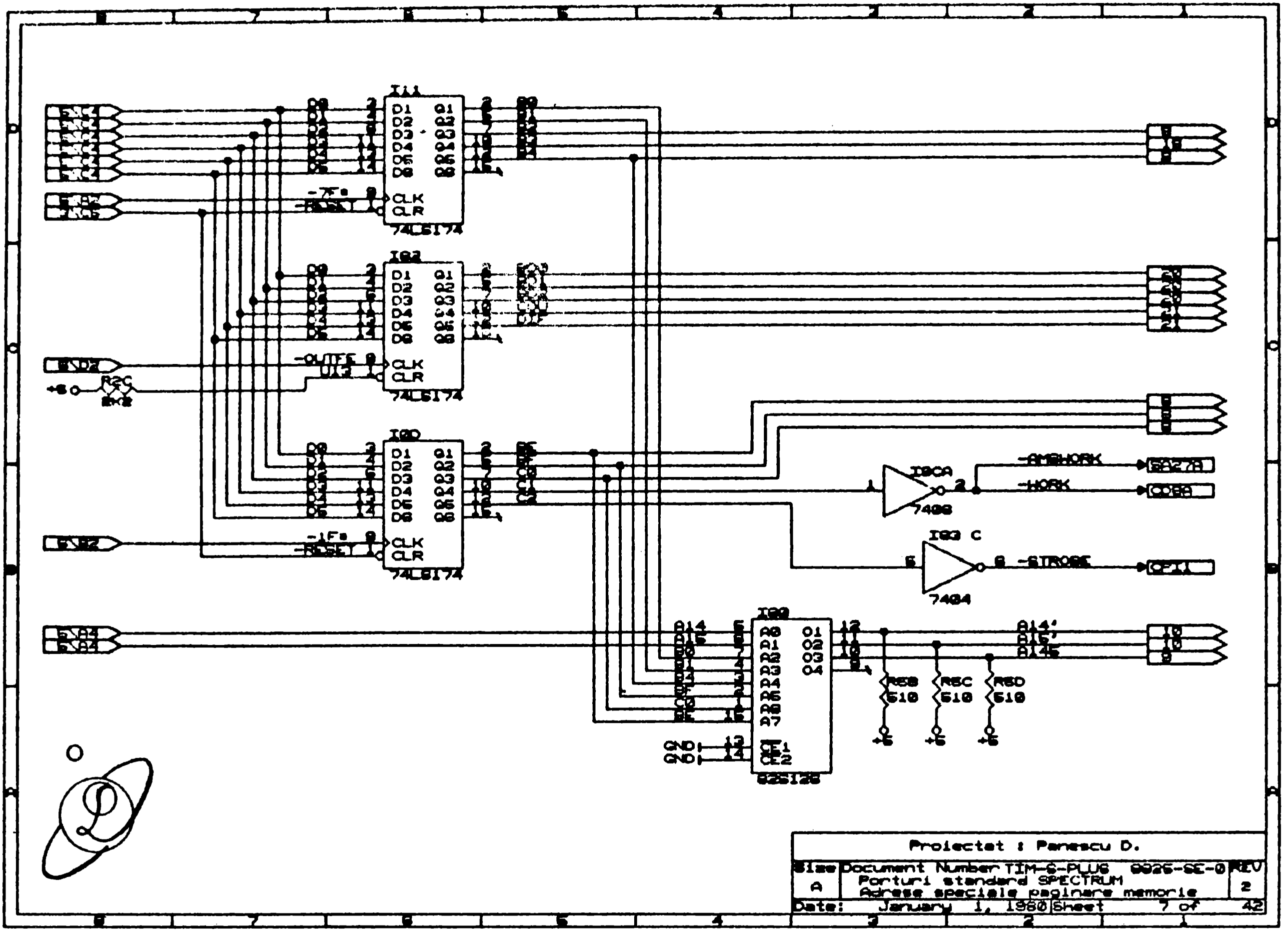
Proiectat : Panescu D.		
Size	Document Number TIM-S-PLUS 8026-SE-0	REV
A	Registru intrerupere mod 2 Amplificatoare de magistrale	2
Date: January 1, 1980	Sheet 5 of 42	



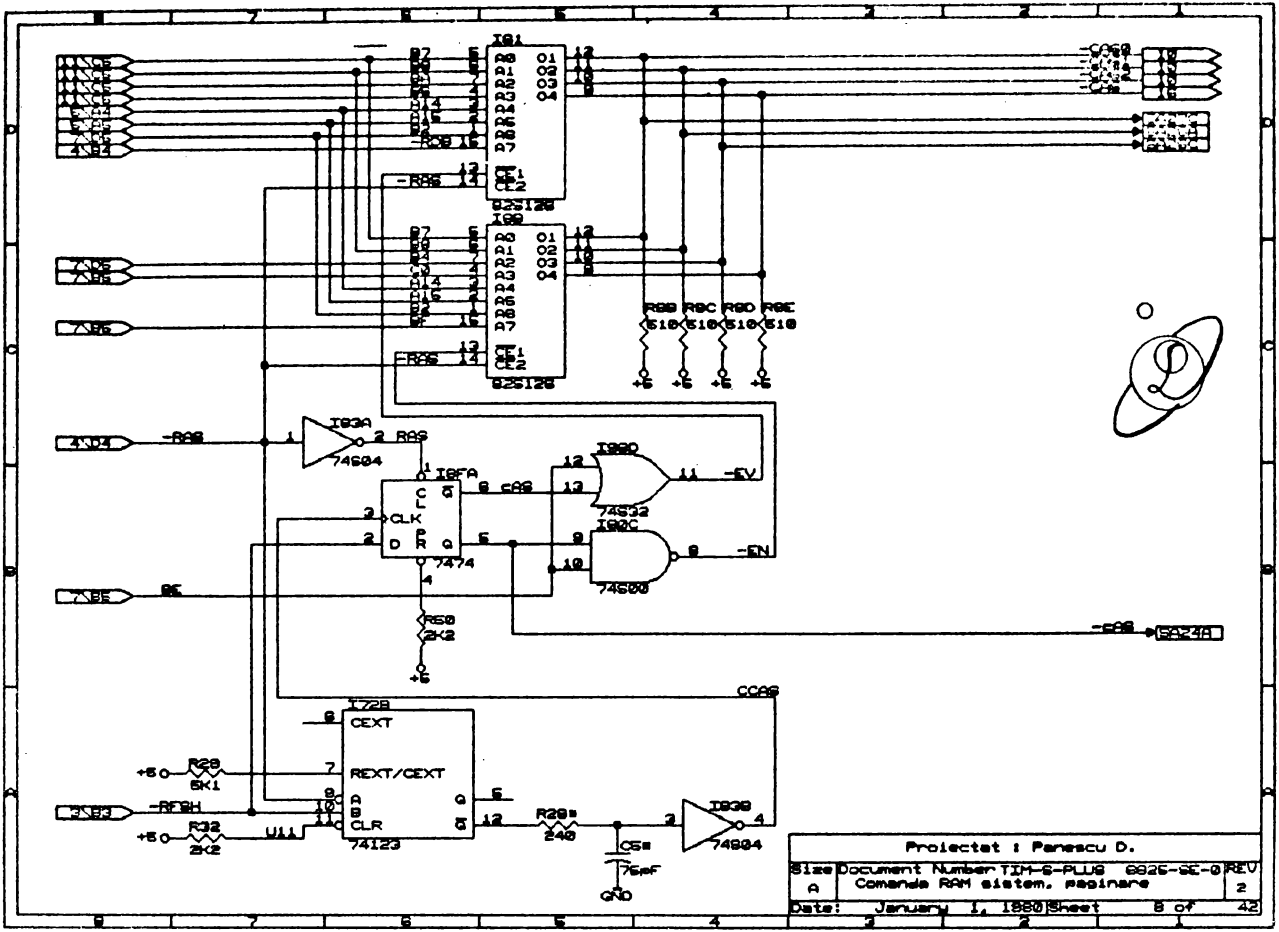
Proiectat : Panescu D.

Size	Document Number	REV
A	TIM-S-PLUS 8825-SC-0 Decodificatoare I/O	2

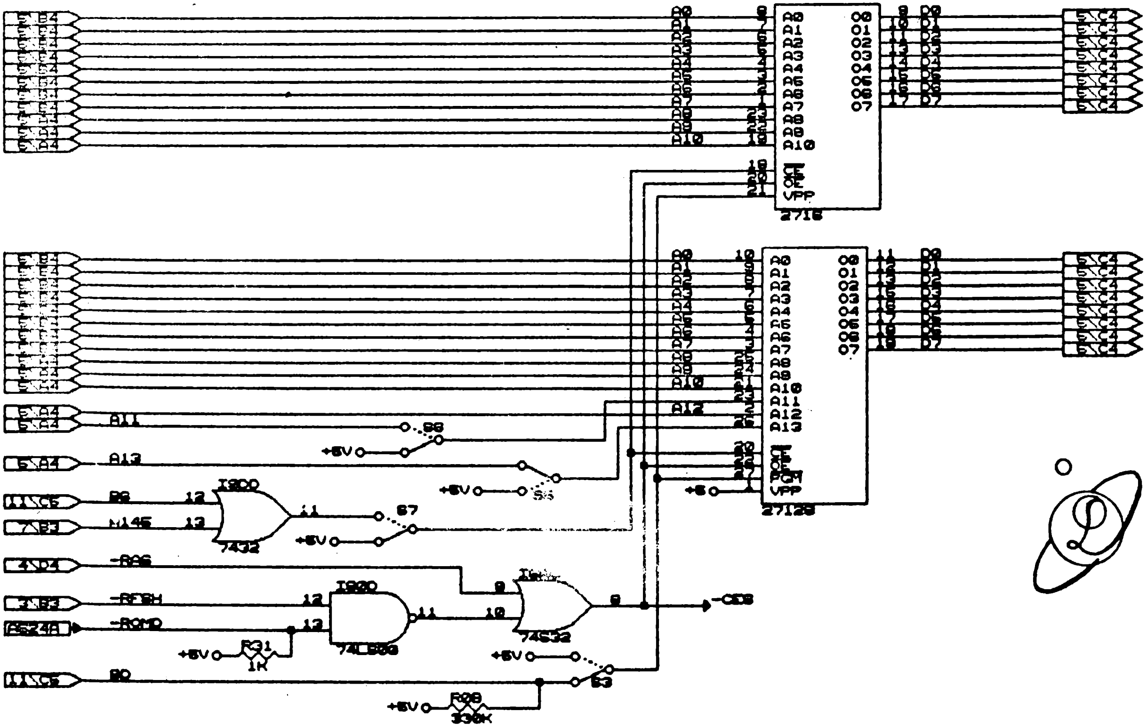
Date: January 1, 1980 Sheet 6 of 43



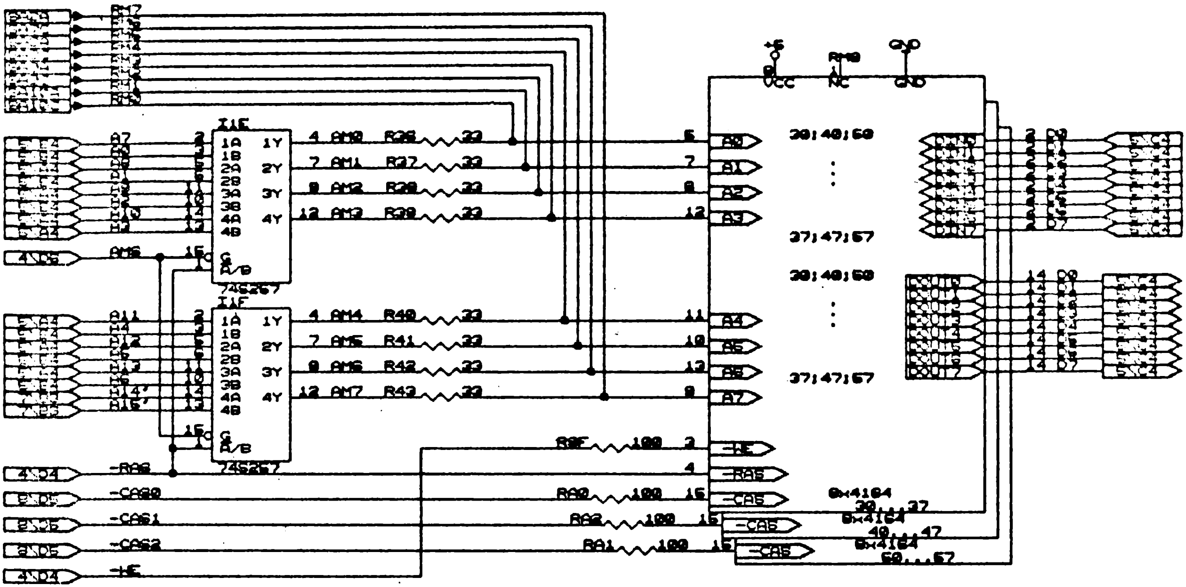
D1
D2
D3
D4
D5
D6
Q1
Q2
Q3
Q4
Q5
Q6
CLK
CLR
74LS174
R2C
+5
I0CA
7400
I03 C
7404
-WORK
-STROBE
A0
A1
A2
A3
A4
A5
A6
A7
O1
O2
O3
O4
CE1
CE2
GND
R5B
R5C
R5D
510
Proiectat : Panescu D.
Size
A
Document Number TIM-S-PLUS
REV
2
Porturi standard SPECTRUM
Adrese speciale paginare memorie
Date: January 1, 1980
Sheet 7 of 42



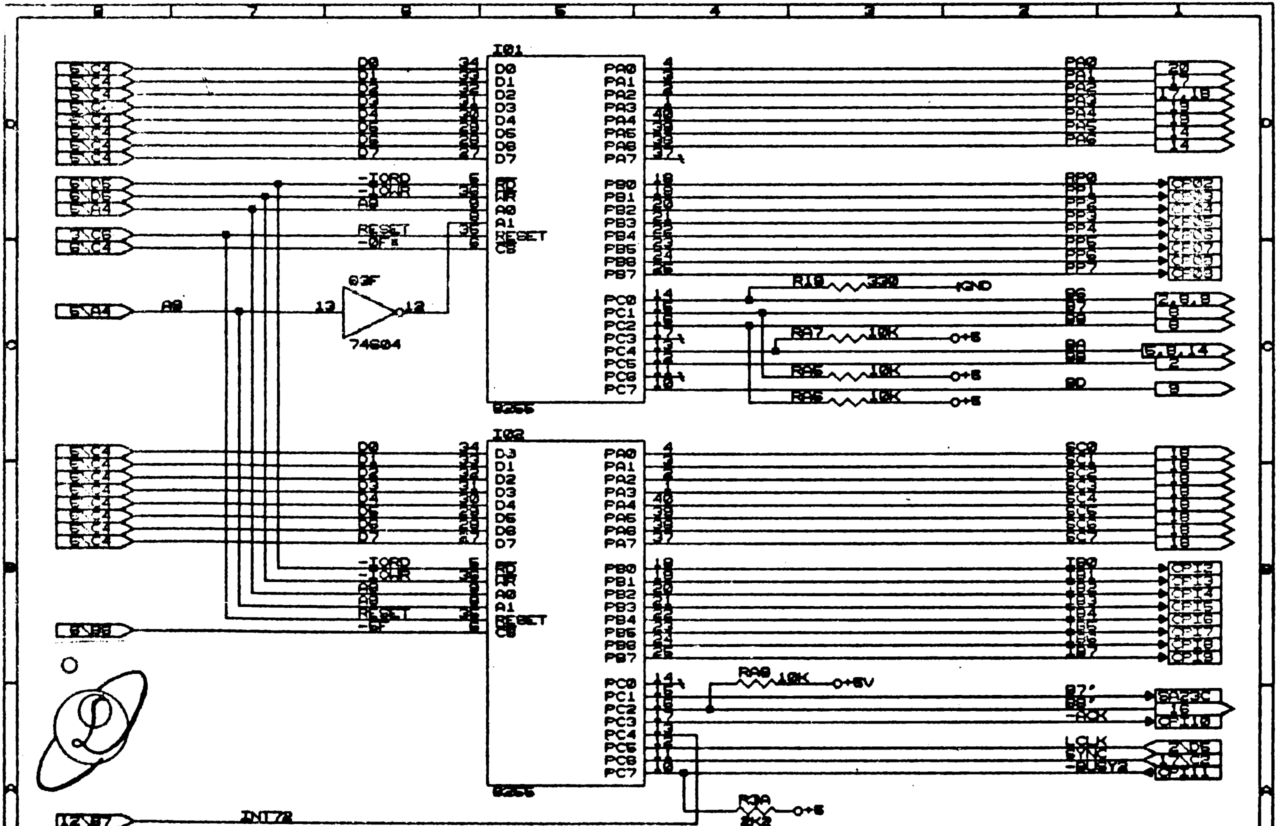
Proiectat : Panescu D.			
Size	Document Number TIM-S-PLUS 8825-SE-0		REV
A	Comanda RAM sistem, paginare		2
Date:	January 1, 1980	Sheet 8 of	42



Proiectat : Panescu D.		
Size A	Document Number TIM-S-PLUS 0026-SC-0 Memorie eprom	REV 2
Date: January 1, 1980	Sheet [illegible] of [illegible]	

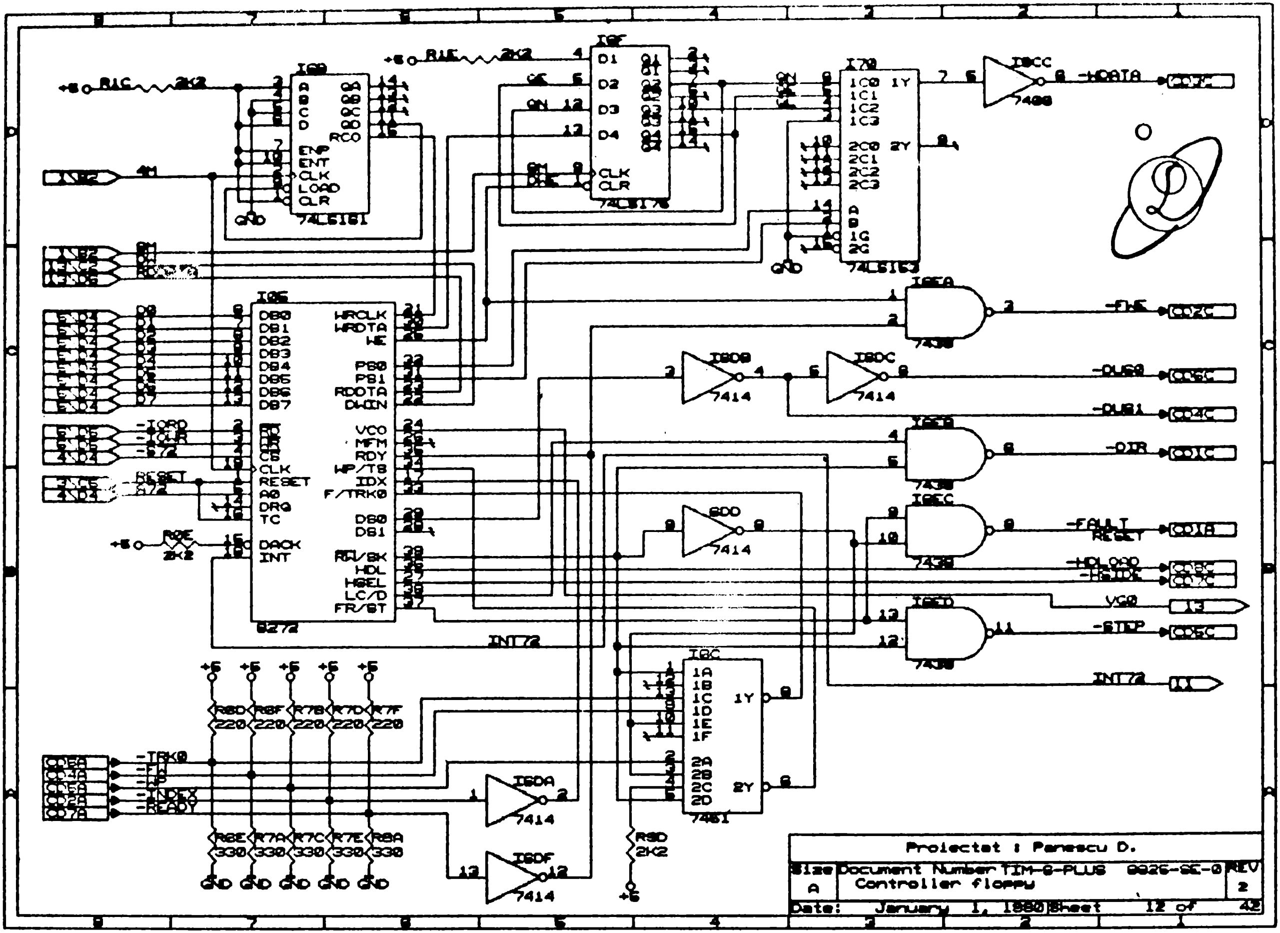


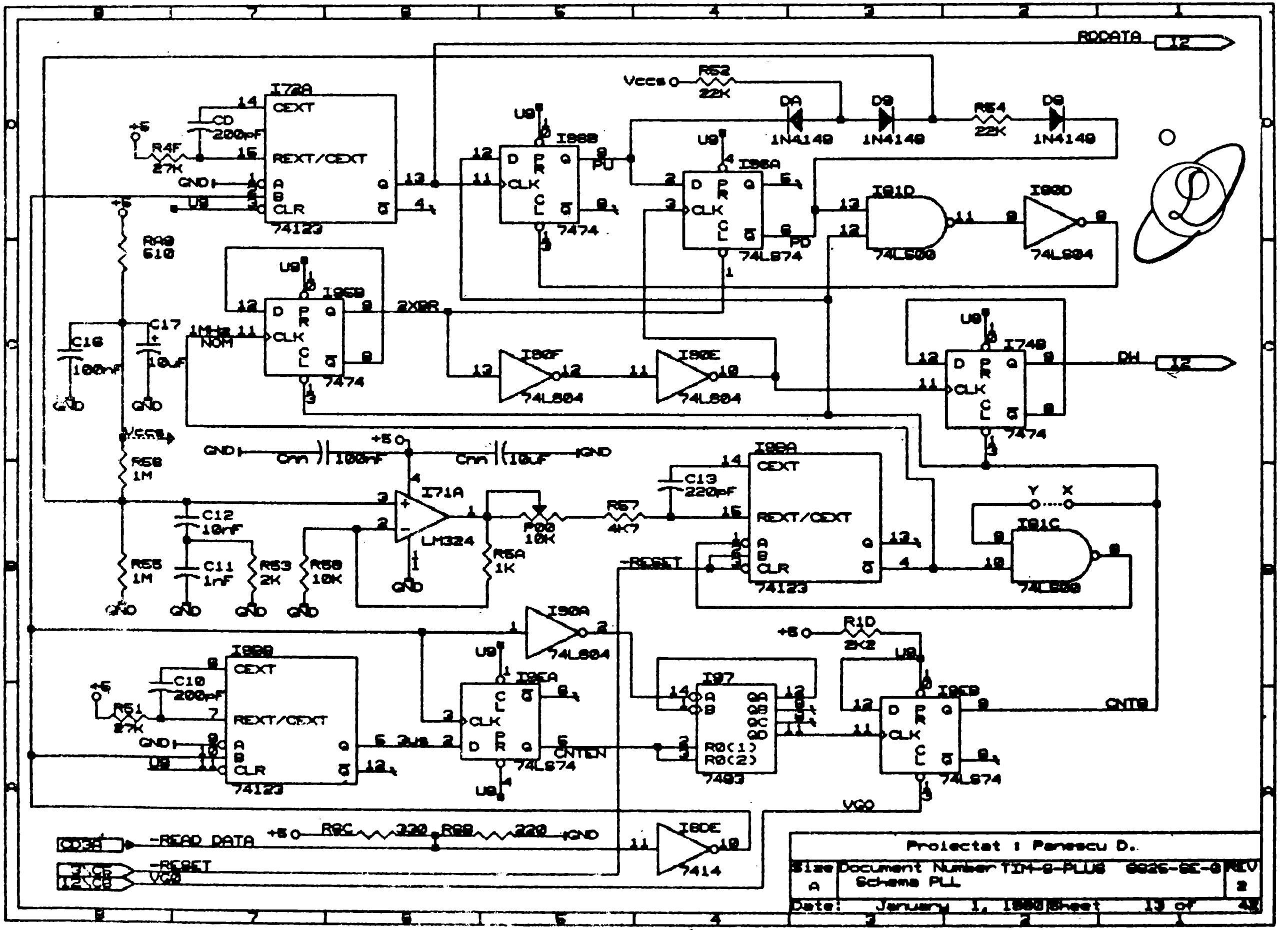
Proiectat : Panescu D.		
Size A	Document Number TIM-S-PLUS 0026-SE-0 Memoria RAM sistem, adresare	REV 2
Date: January 1, 1980	Sheet 10 of 42	

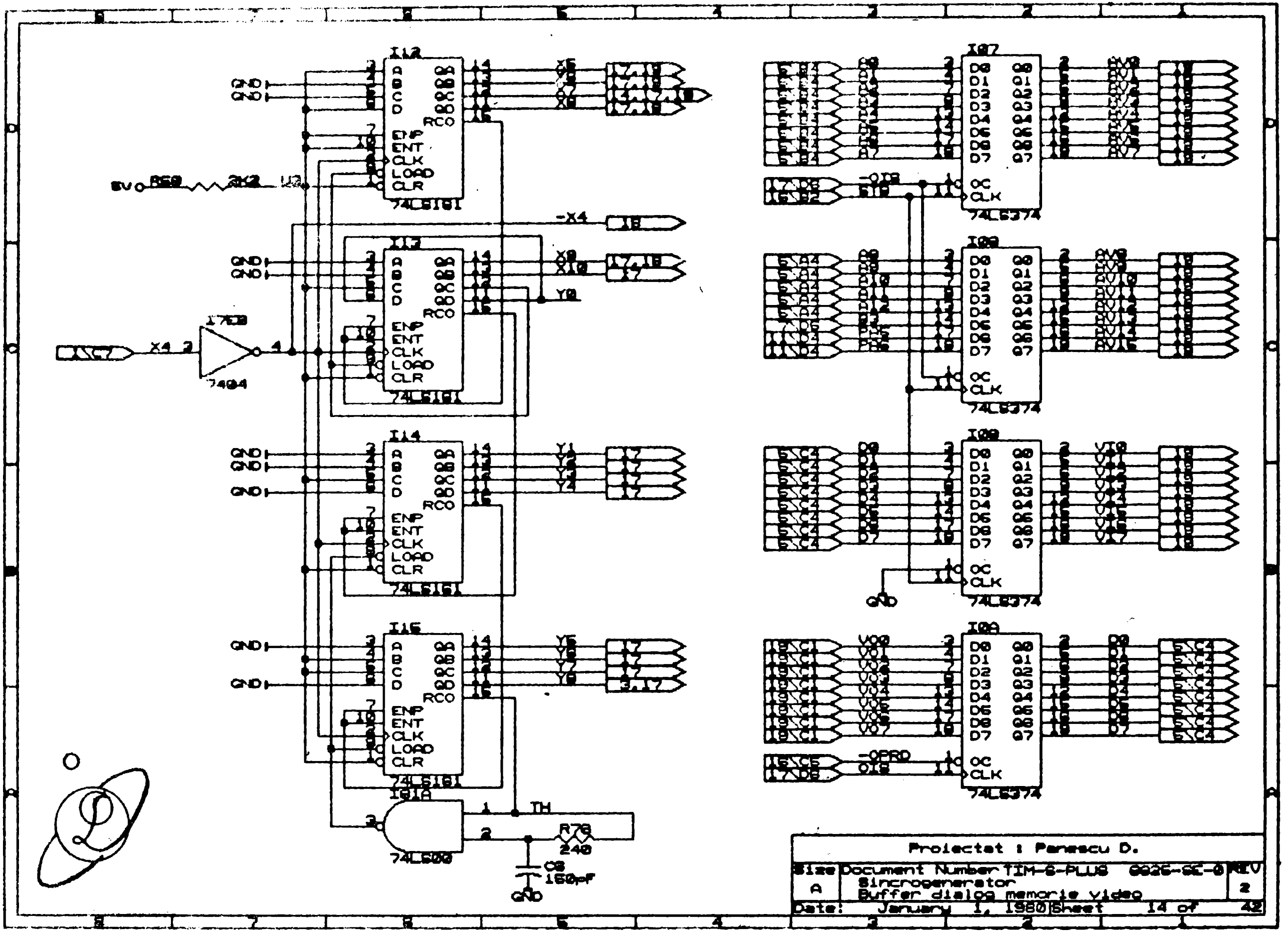


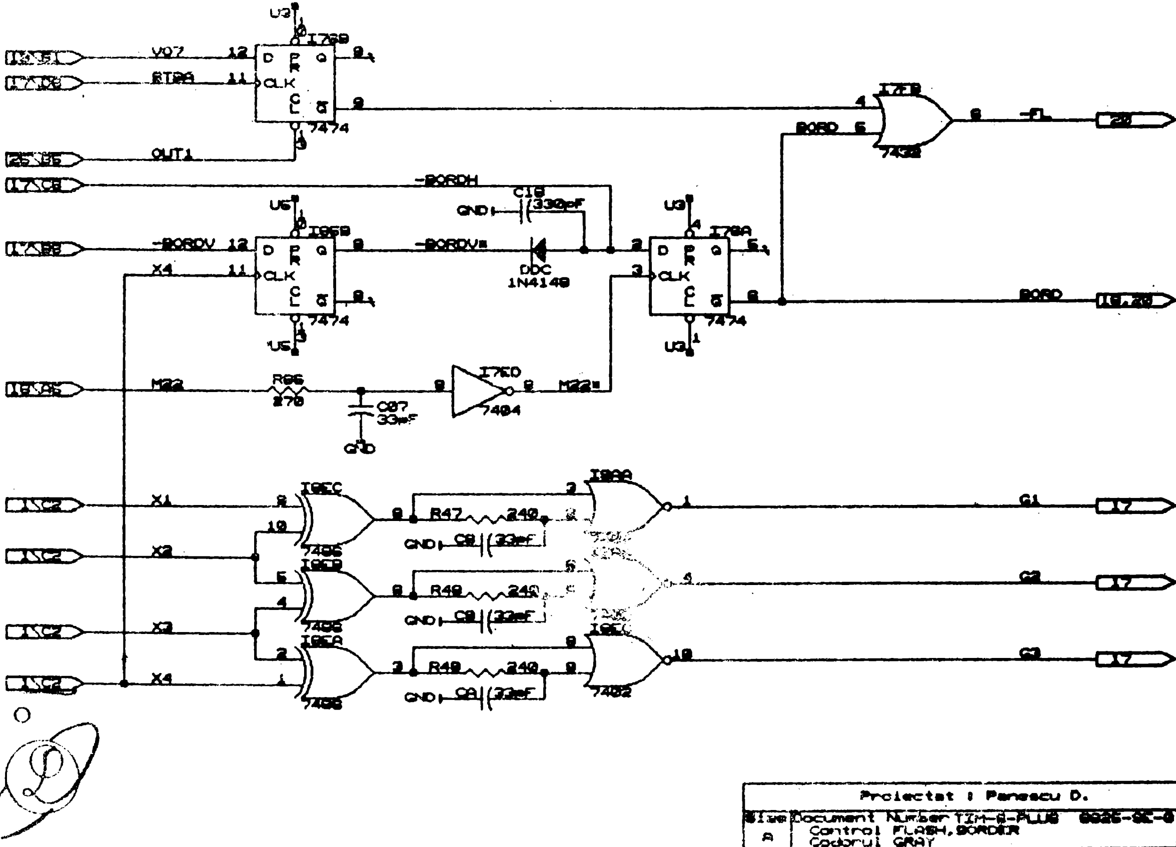
Proiectat : Panescu D.

Size	Document Number TIM-S-PLUS 0025-SE-0	REV
A	Porturi paralele 8255	2
Date: January 1, 1980	Sheet 11 of 43	

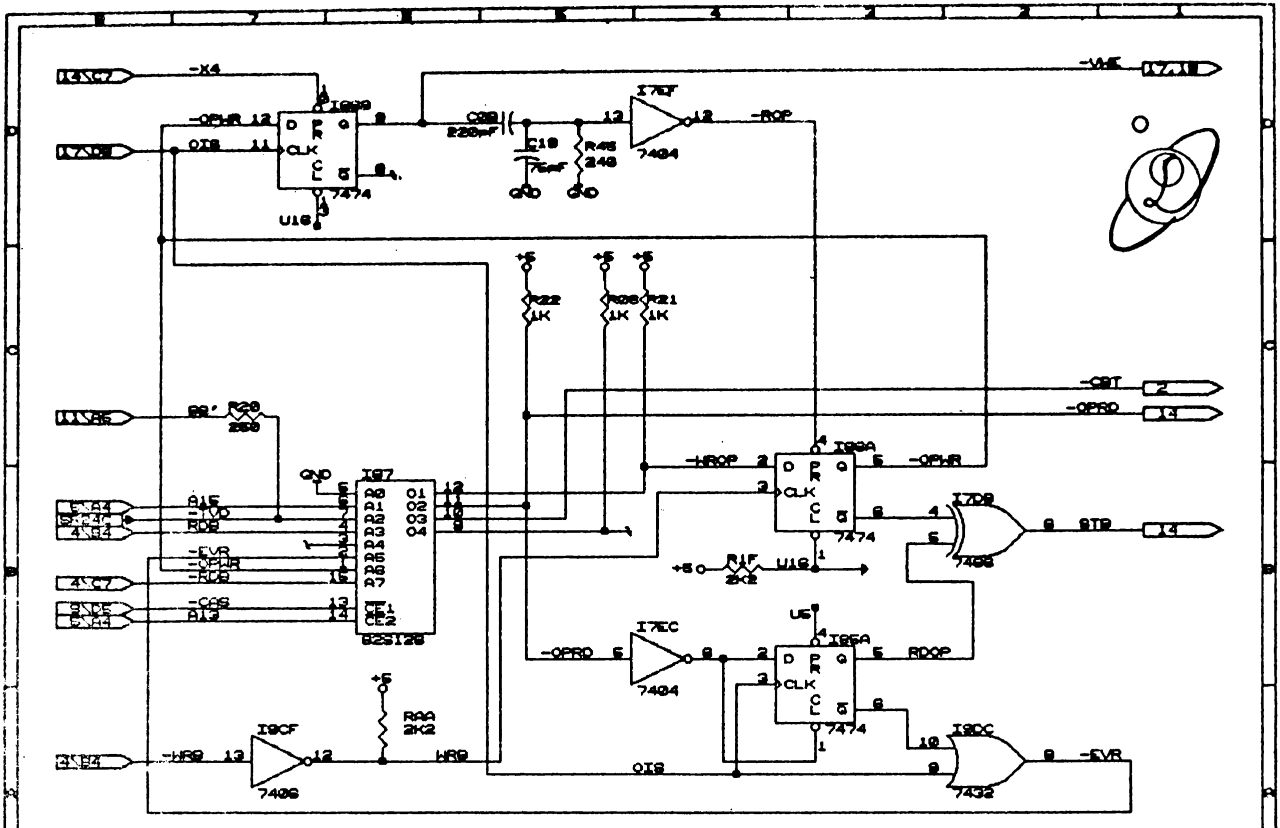

74LS161
74LS175
74LS153
8272
7400
7414
7438
74S1
INT72
Proiectat : Panescu D.
Size
A
Document Number TIM-S-PLUS 0026-SE-0
Controller floppy
REV
2
Date: January 1, 1980 Sheet 12 of 42


RDDATA
I2
Vccs
R52
22K
DA
1N4148
D9
1N4148
R54
22K
D8
1N4148
I72A
CEXT
CD
200pF
+5
R4F
27K
REXT/CEXT
GND
A
B
CLR
Q
74123
U9
I88B
D
PR
CLK
CL
PU
7474
I96A
74LS74
PD
I91D
74LS00
I90D
74LS04
RA9
510
I95B
2XBR
1MHz
NOM
C16
100nF
C17
10uF
I90F
74LS04
I90E
74LS04
I74B
DH
Cnn
100nF
10uF
R58
1M
I71A
LM324
P00
10K
R57
4K7
C13
220pF
I89A
74123
C12
10nF
C11
1nF
R55
1M
R53
2K
R56
10K
R5A
1K
-RESET
Y
X
I91C
74LS00
I90A
74LS04
R1D
2K2
I89B
CEXT
C10
200pF
R51
27K
REXT/CEXT
74123
I96A
CLK
5.2us
CNTEN
74LS74
I97
QA
QB
QC
QD
R0(1)
R0(2)
7493
I95B
CNT9
VCO
CD38
-READ DATA
R9C
330
R99
220
I80E
7414
-RESET
VCO
Proiectat : Panescu D.
Size
A
Document Number TIM-S-PLUS 0025-SE-0
Schema PLL
REV
2
Date: January 1, 1990
Sheet 13 of 42

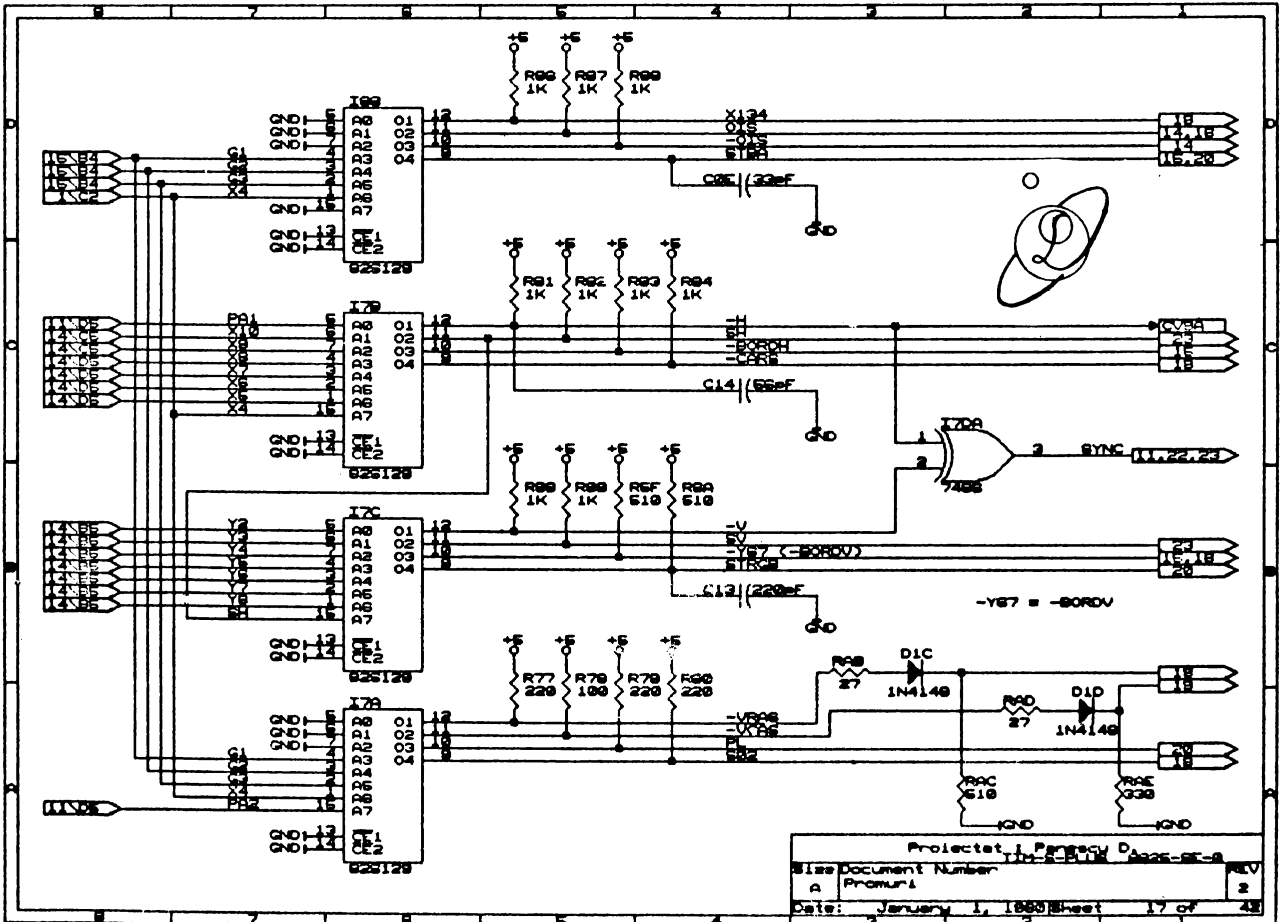

I12
I13
I14
I15
I07
I08
I09
I0A
74LS161
74LS374
74LS00
7404
I61A
I7E8
GND
5V
R59
2K2
X4
-X4
Y0
TH
R78
240
C8
150pF
-OIS
OIS
-OPRD
Proiectat : Panescu D.
Size
A
Document Number TIM-S-PLUS 0025-SC-0
REV
2
Sincrogenerator
Buffer dialog memorie video
Date: January 1, 1980
Sheet 14 of 42

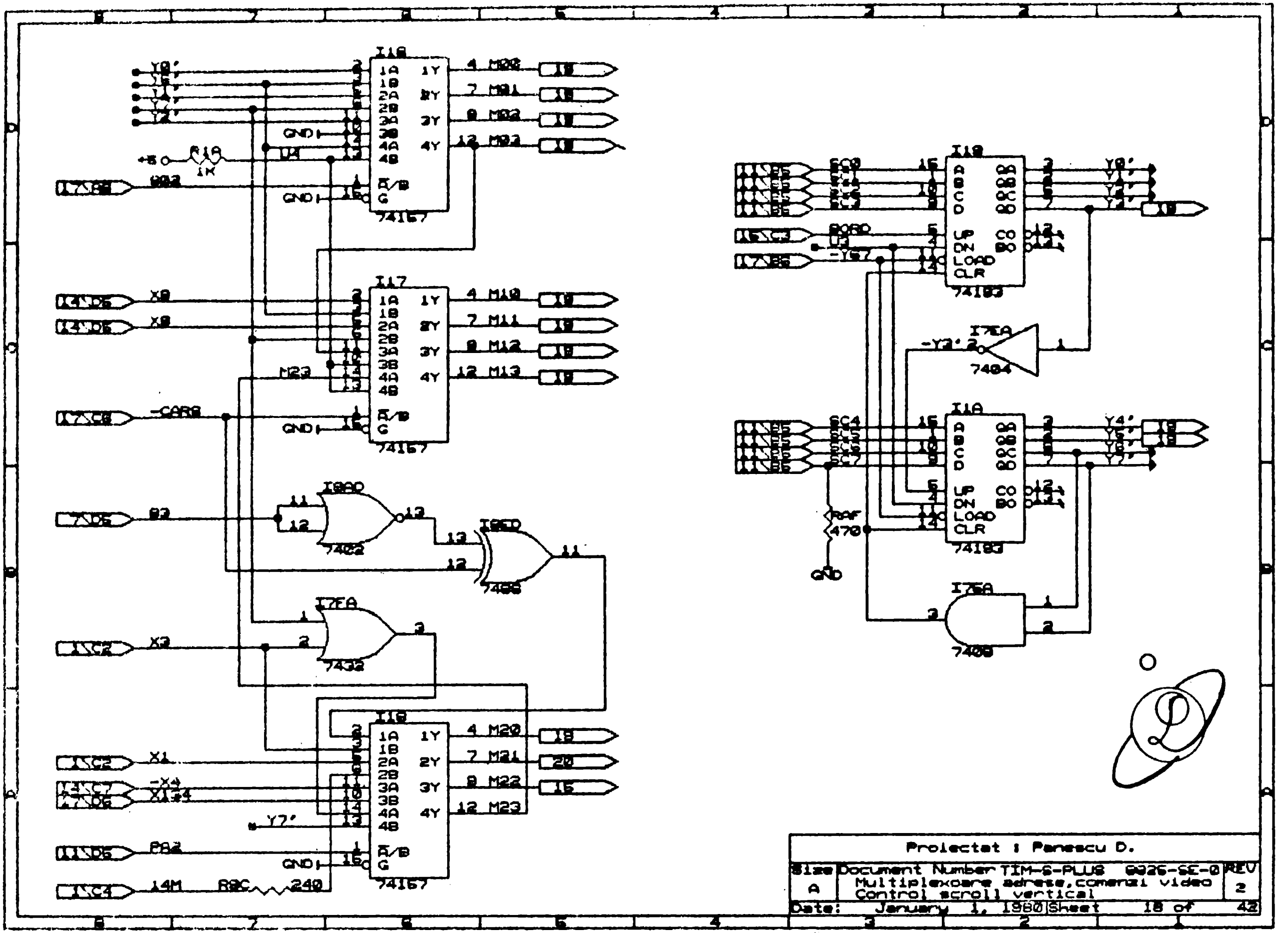


Proiectat : Panescu D.		
Size A	Document Number TIM-S-PLUS 0025-SC-0 Control FLASH,BORDER Codorul GRAY	REV 2
Date: January 1, 1980	Sheet 15 of 4?	

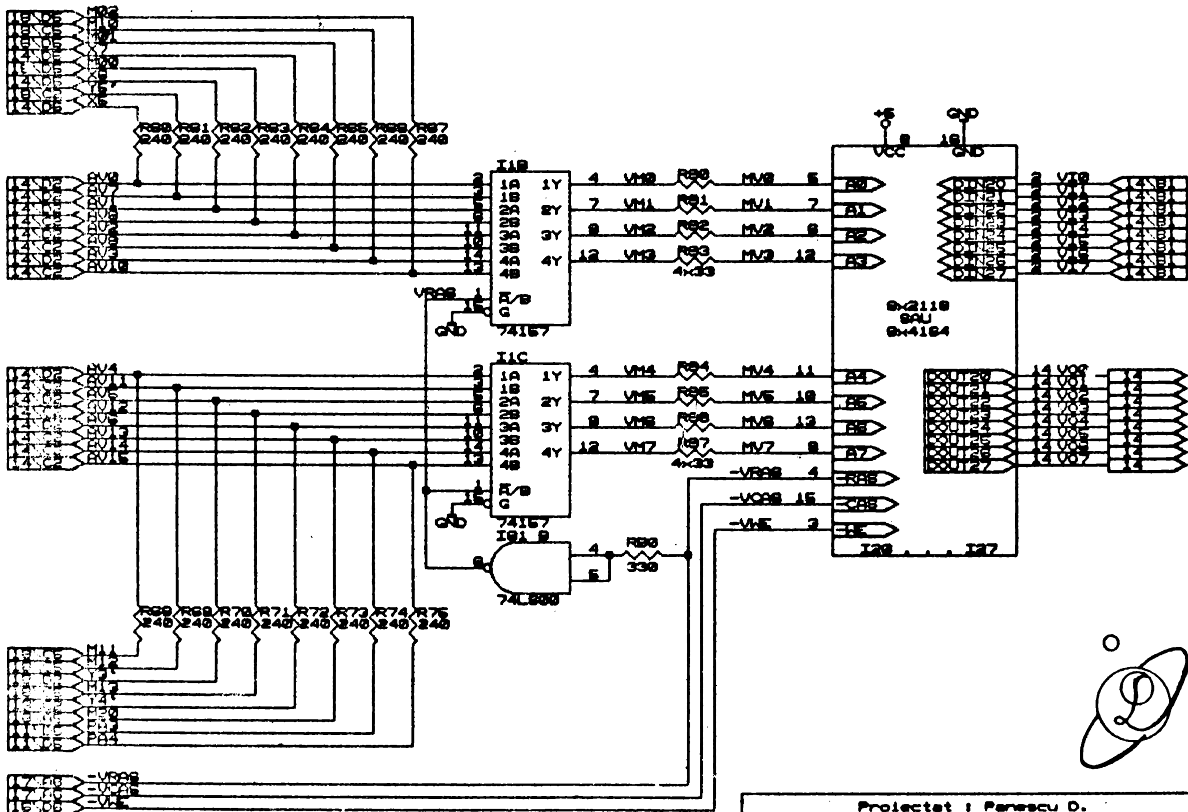


Proiectat : Panescu D.		
Size A	Document Number TIM-S-PLUS 8925-SE-0 Protocol uP - automat video	REV 2
Date: January 1, 1980	Sheet 16 of 42	

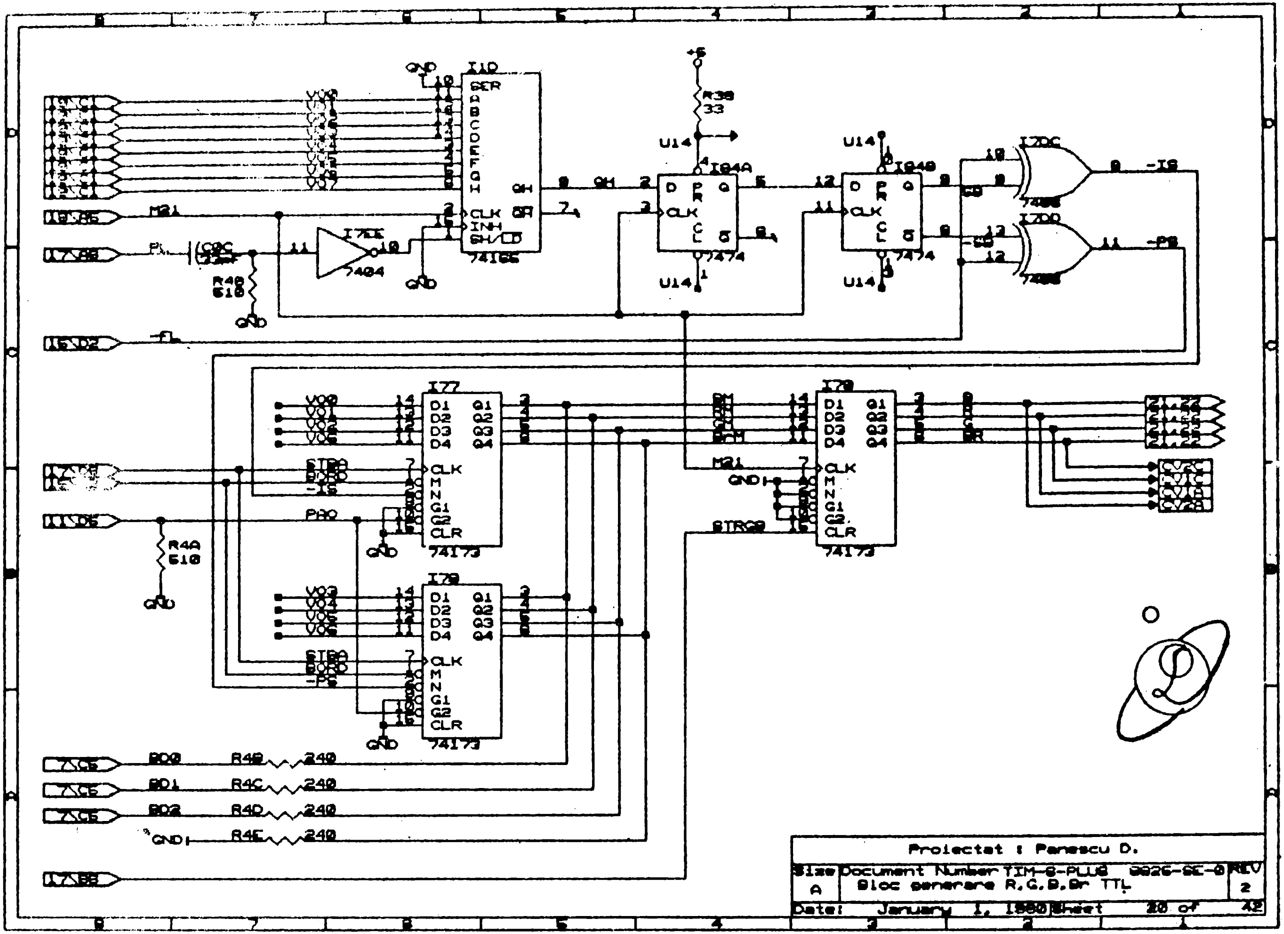

+5
R86 1K
R87 1K
R88 1K
I9B
GND
A0 A1 A2 A3 A4 A5 A6 A7
O1 O2 O3 O4
CE1 CE2
82S129
X134
OIS
-OIS
STRB
C9E 33pF
GND
R81 1K
R82 1K
R83 1K
R84 1K
I7B
PA1
-H
5H
-BORDH
-CARS
CVSA
C14 56pF
I7DA
7486
SYNC
11,22,23
R89 1K
R80 1K
R6F 510
R8A 510
I7C
-V
5V
-Y67 (-BORDV)
STRCB
C13 220pF
-Y67 = -BORDV
R77 220
R78 100
R79 220
R80 220
I7A
-VRAS
-VCAS
RA8 27
D1C 1N4148
RAD 27
D1D 1N4148
RAC 510
RAE 330
Proiectat : Pangescu D.
TIM-S-PLUS
Size A
Document Number
Promuri
REV 2
Date: January 1, 1990
Sheet 17 of 42

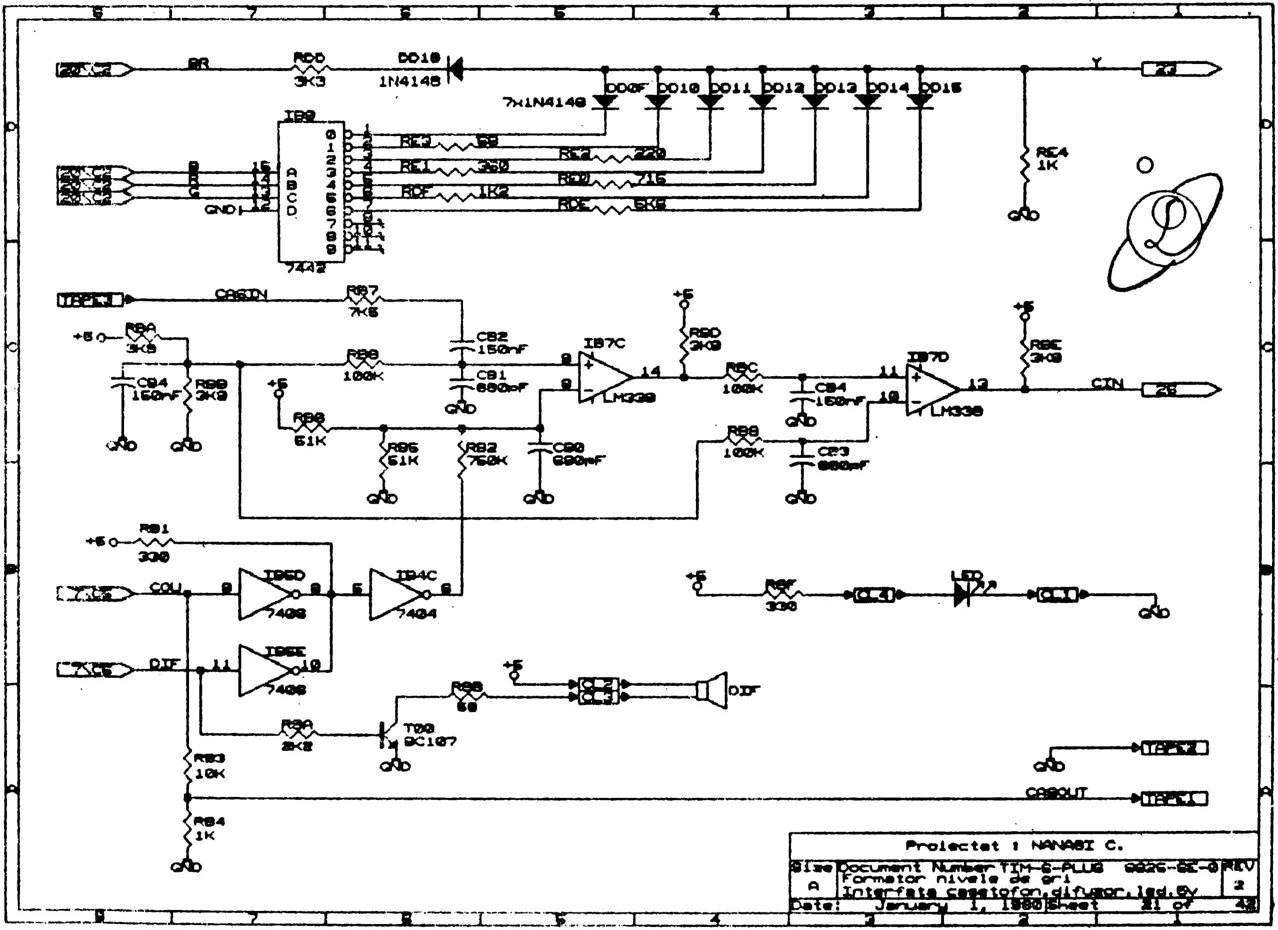


Proiectat : Panescu D.		
Size	Document Number TIM-S-PLUS 0026-SE-0 Multiplexoare adrese, comenzi video Control scroll vertical	REV
A		2
Date: January 1, 1980	Sheet 18 of 42	

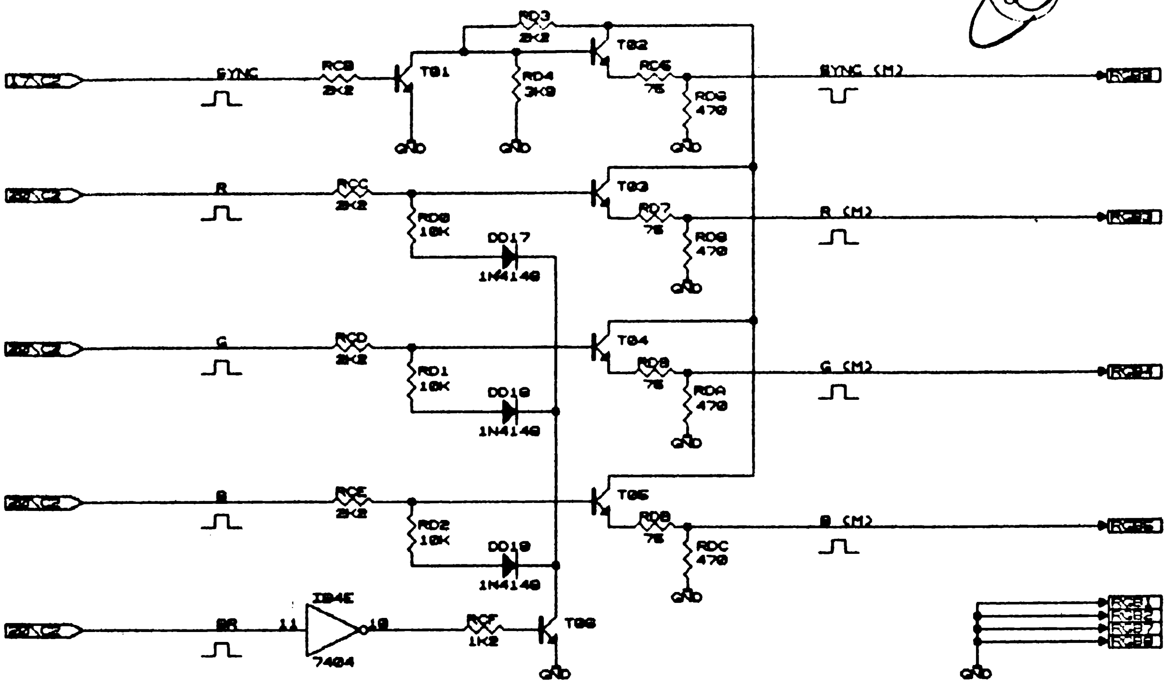


Proiectat : Panescu D.		
Size A	Document Number TIM-S-PLUS 0026-SC-0 RAM video, adresare	REV 2
Date: January 1, 1980	Sheet 18 of 42	


74166
74174
7404
7486
74173
QH
CLK
INH
SH/LD
SER
D1
D2
D3
D4
Q1
Q2
Q3
Q4
M
N
G1
G2
CLR
U14
R38
33
R4B
510
R4A
510
R4B 240
R4C 240
R4D 240
R4E 240
GND
+5
M21
STBA
BORD
PBO
STRGB
BD0
BD1
BD2
-IS
-PS
Proiectat : Panescu D.
Size
A
Document Number TIM-S-PLUS 0026-SE-0
Bloc generare R,G,B,Br TTL
REV
2
Date: January 1, 1980
Sheet 20 of 42

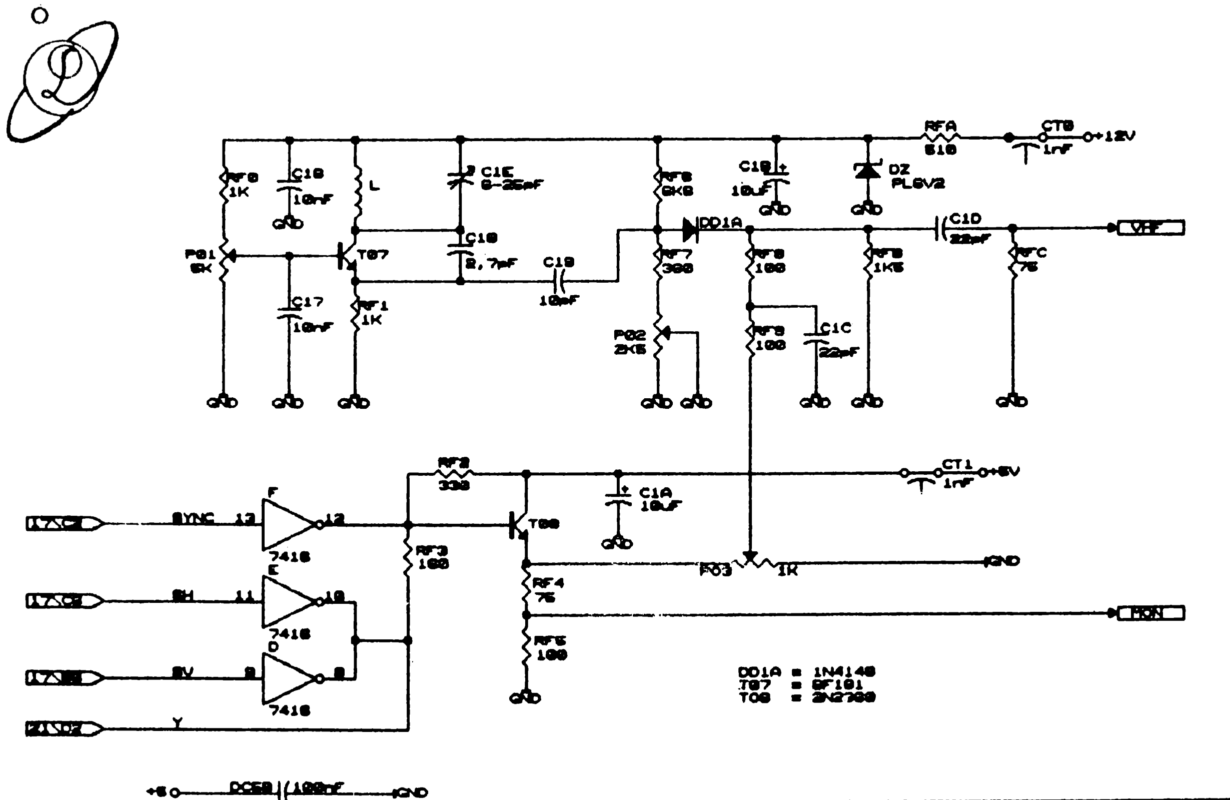


BR
RD0
3K3
DD18
1N4148
Y
DD0F DD10 DD11 DD12 DD13 DD14 DD15
7x1N4148
IB9
7442
A
B
C
D
GND
RE3 68
RE2 220
RE1 360
RE0 715
RDF 1K2
RDE 6K8
RE4
1K
GND
CASIN
RB7
7K5
RBA
3K9
CB2
150nF
RB8
100K
CB1
680pF
CB4
150nF
RB9
3K9
RB8
51K
RB6
51K
RB2
750K
C80
680pF
IB7C
LM339
RBD
3K9
RBC
100K
CB4
150nF
RB8
100K
CB3
680pF
IB7D
LM339
RBE
3K9
CIN
RB1
330
COU
IB6D
7406
IB4C
7404
DIF
IB6E
7406
LED
RBF
330
RB8
56
T00
BC107
RBA
2K2
RB3
10K
RB4
1K
CASOUT
GND
Proiectat : NANASI C.
Size
A
Document Number TIM-S-PLUS 0026-8E-0
Formator nivele de gri
Interfata casetofon,difuzor,led,5v
REV
2
Date: January 1, 1980 Sheet 21 of 42



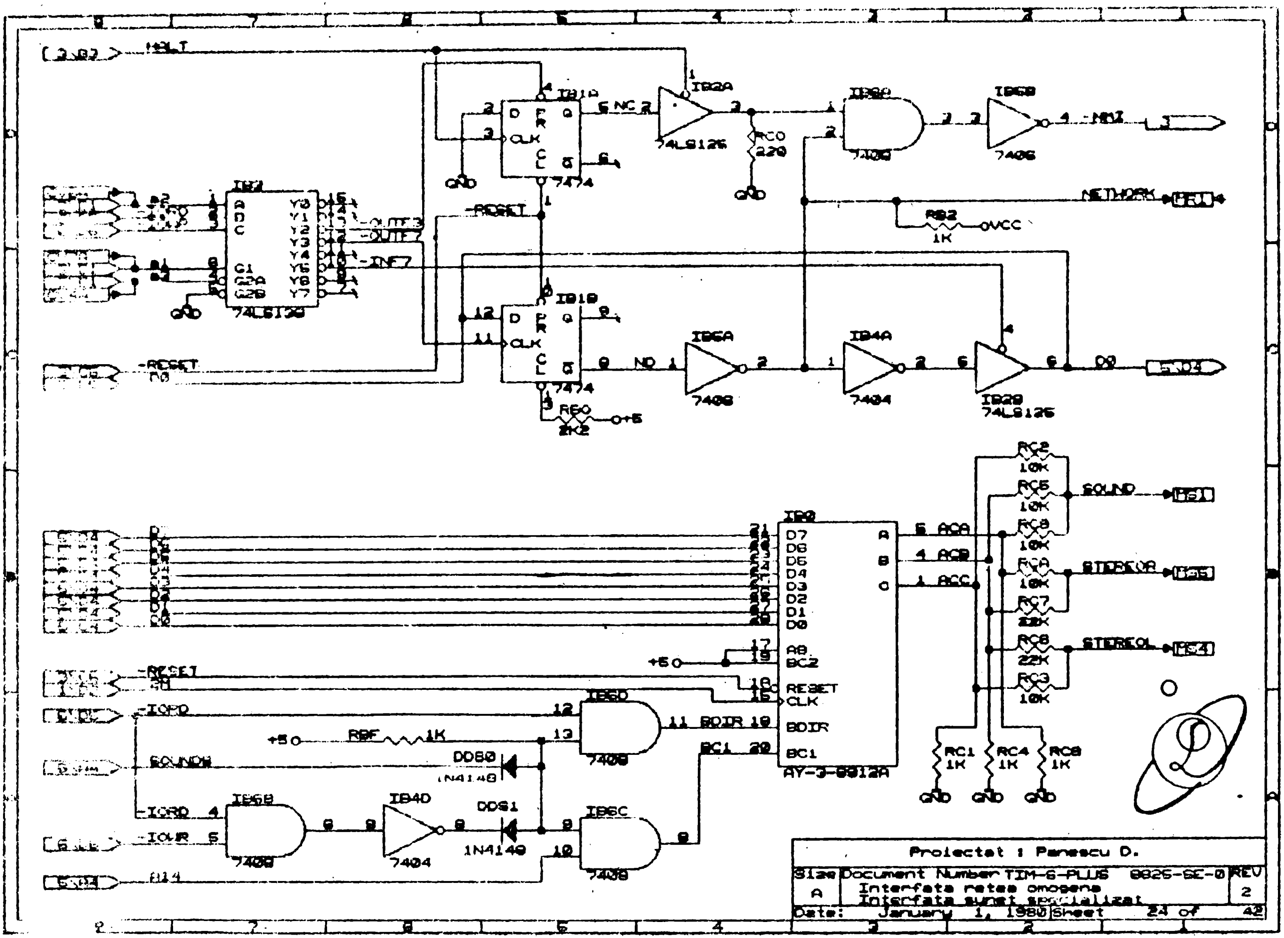
T01 - T06 : 2N2369

Proiectat : NANASI C.		
Size	Document Number TIM-S-PLUS 0026-SC-0	REV
A	Interfata monitor color RGB	2
Date: January 1, 1980	Sheet 22 of 42	

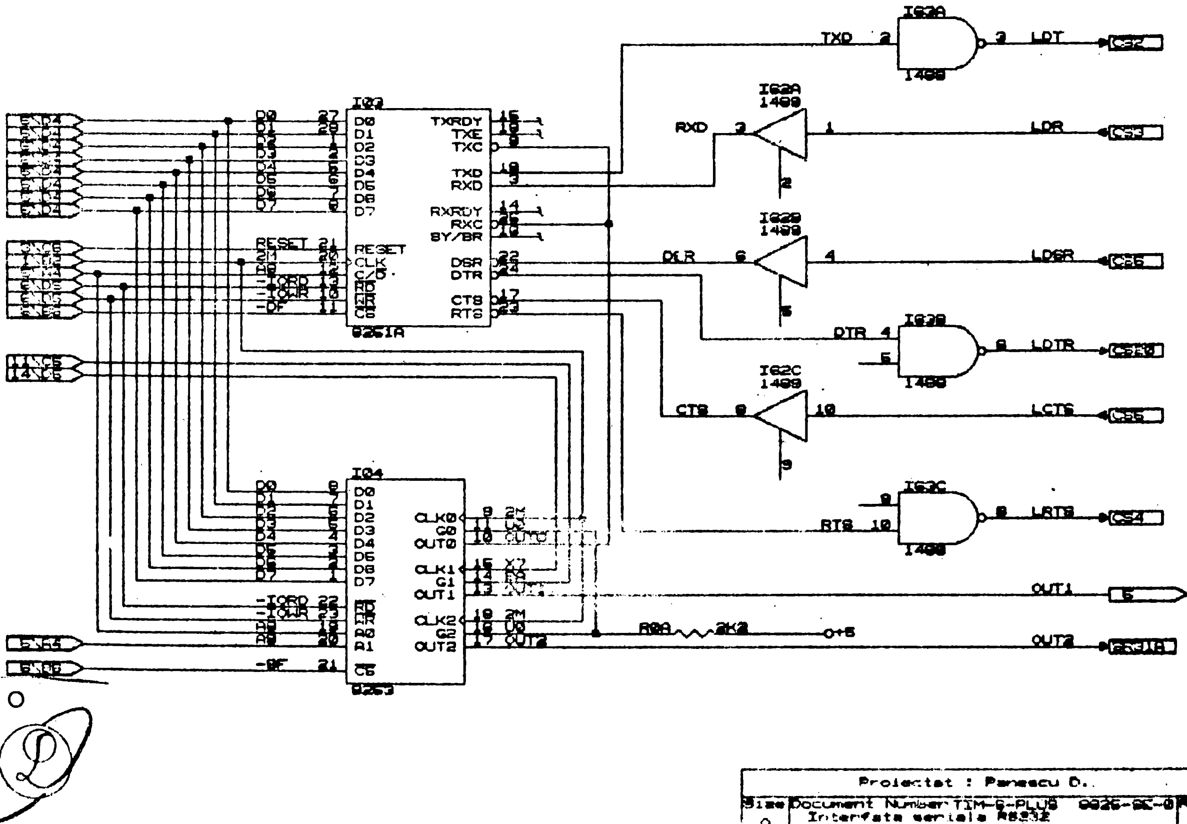


Proiectat : NANASI C.

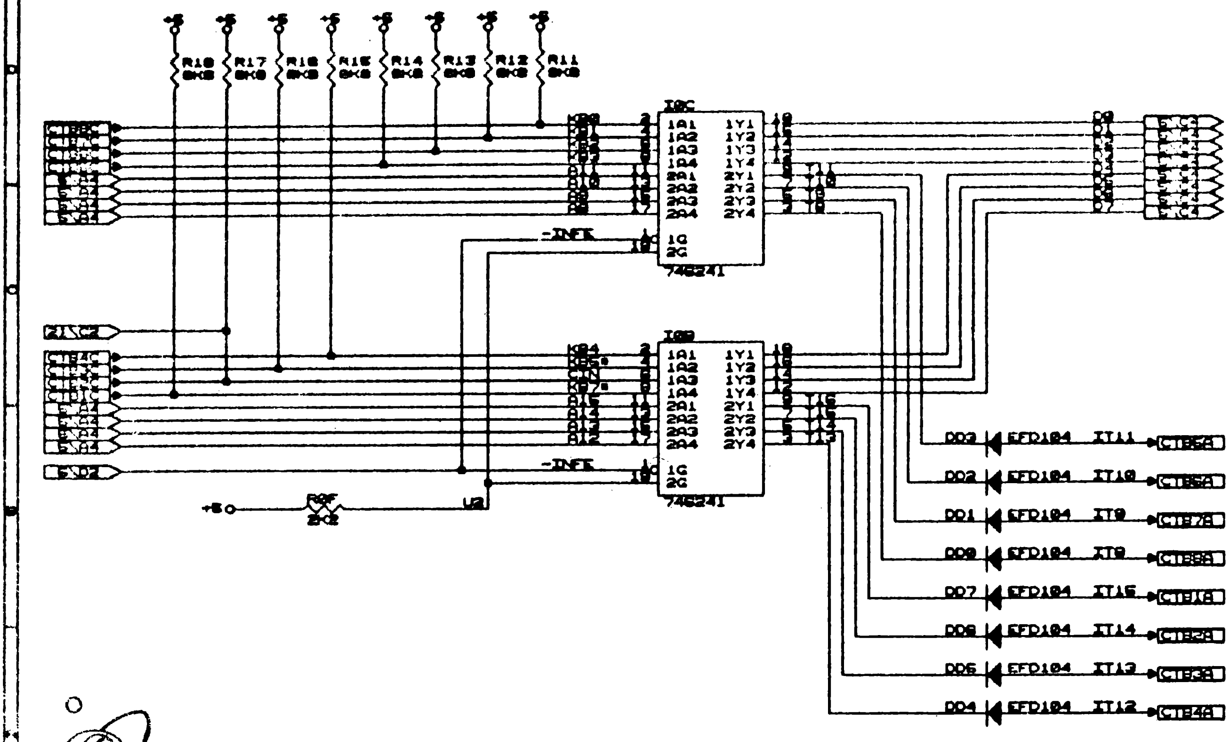
Size	Document Number TIM-S-PLUS 0026-SE-0 Modulator si interfata monitor A/N	REV
A		2
Date	January 1, 1990 Sheet 23 of 39	



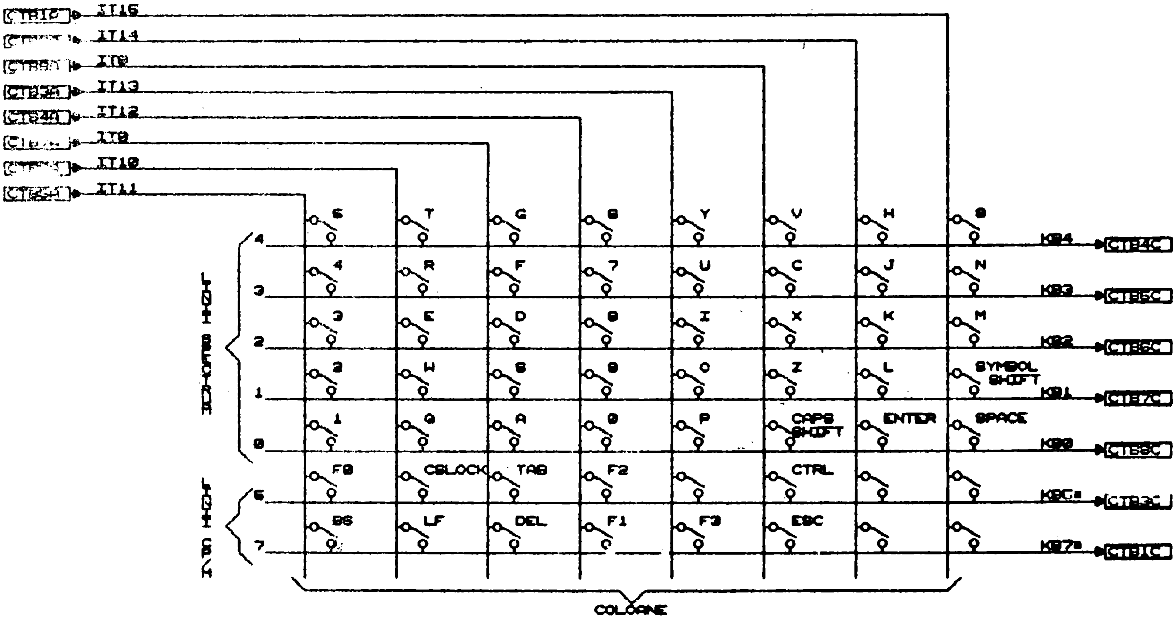
HALT
-RESET
-OUTF3
-OUTF7
-INF7
74LS126
74LS138
7474
7408
7406
7404
NETWORK
RB2 1K
VCC
RCO 220
RBO 2K2
+5
GND
-NMI
D0
AY-3-8912A
D7 D6 D5 D4 D3 D2 D1 D0
A8 BC2 RESET CLK BDIR BC1
ACA ACB ACC
SOUND
STEREOR
STEREOL
RC2 10K
RC5 10K
RC9 10K
RCA 10K
RC7 22K
RC8 22K
RC3 10K
RC1 1K
RC4 1K
RC6 1K
-IORQ
SOUNDW
-IORD
-IOWR
RBF 1K
DDS0 1N4148
DDS1 1N4148
BDIR
BC1
Proiectat : Panescu D.
Size A
Document Number TIM-S-PLUS 8825-SE-0
REV 2
Interfata retea omogena
Interfata sunet specializat
Date: January 1, 1980
Sheet 24 of 42



Proiectat : Panescu D.		
Size A	Document Number TIM-S-PLUS 0025-SC-0 — Interfata seriala RS232 Numarator programabil	REV 2
Date: January 1, 1980	Sheet 25 of 43	



Proiectat : Panescu D.		
Size A	Document Number TIM-6-PLUS 0026-SE-0 Interfata cu tastatura	REV 2
Date: January 1, 1980	Sheet 26 of 42	



Proiectat : Panescu D.

Size	Document Number	REV
A	TIM-S-PLUS 8026-SE-0 Configuratie tastatura	2
Date:	January 1, 1980	Sheet 27 of 43

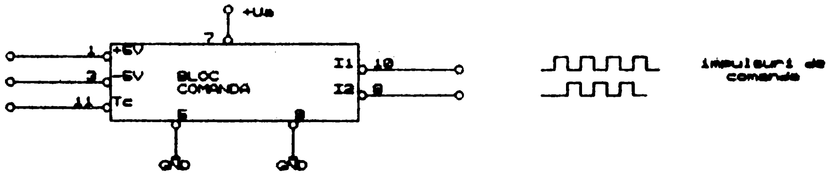


FIGURA 28A

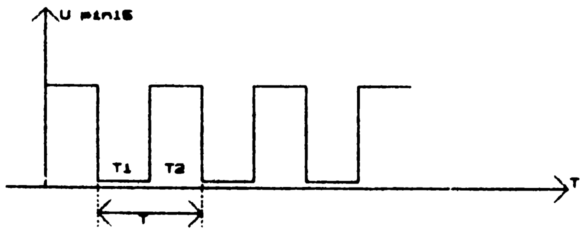


FIGURA 28B

Size A	Document Number	REV
Date: January 1, 1980	Sheet 28 of 42	

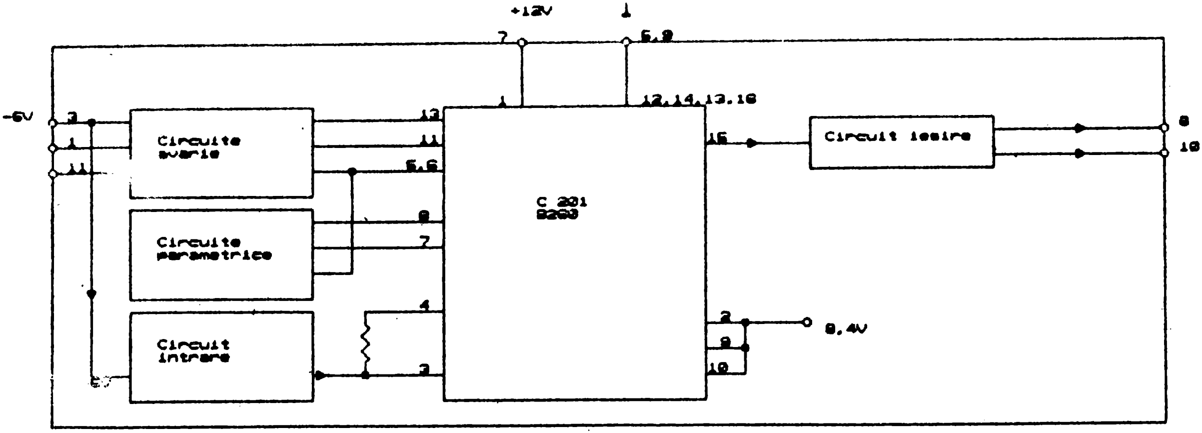


FIGURA 30

Size A	Document Number	REV
Date: January 1, 1980	Sheet 30 of 42	

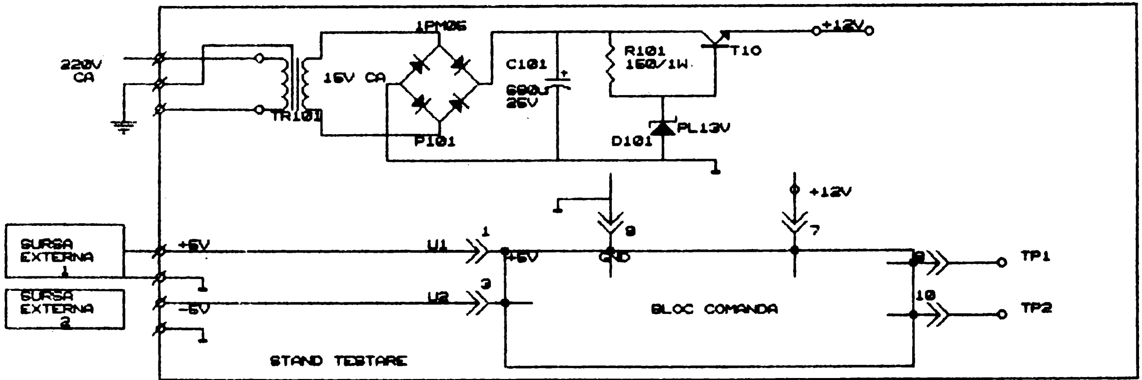


FIGURA 31A

CABLAJ IMPRIMAT STAND TESTARE BLOC COMANDA

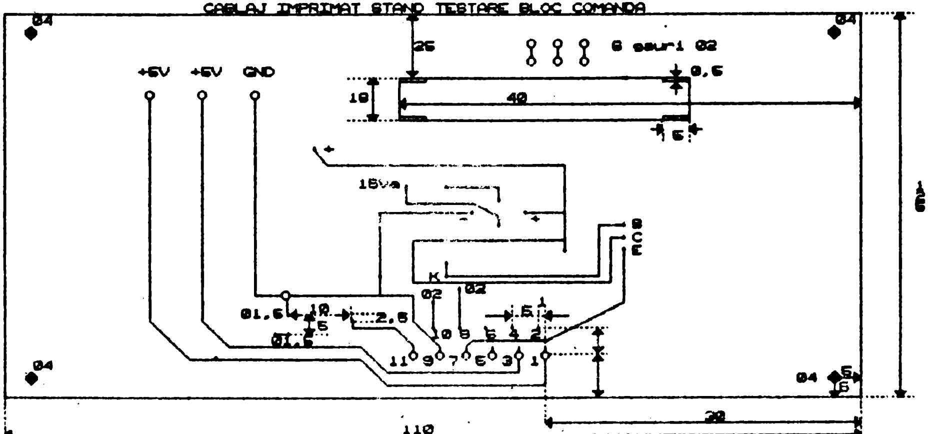
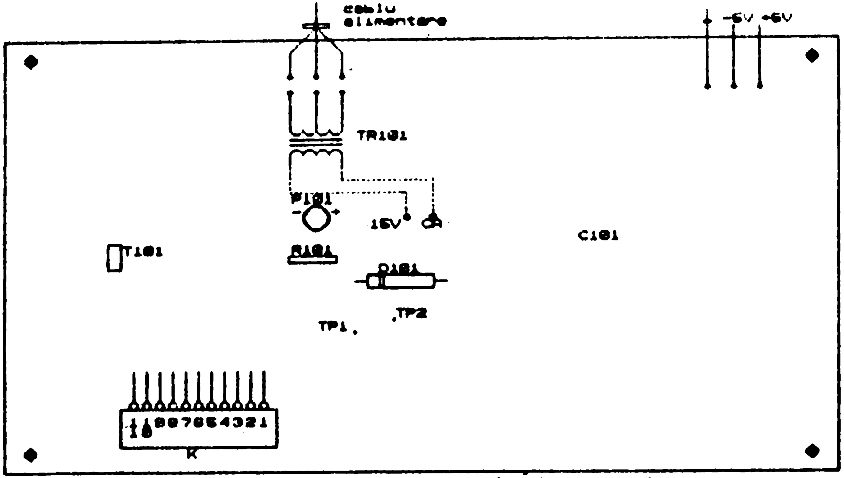


FIGURA 31B

*Nota: gaurile se dau cu Ø1. Cele cu alte dimensiuni sint notate separat pe desen



Schema de implantare a standului de testare a placii de comanda.

<u>Lista de piese</u>
- -Transformator 220v ca /15v ca
- -Condensator electrolitic 000u/25V
- -Rezistenta 300/1W RPM 3100
- -Potentiometru ajustabil 100/0,5W
- -Tranzistor RD138
- -Dioda Zener PL3V9
- -Punte redresoare 1PM05
- -Cupla mama+conector CRIP 11 AS 380 004
- -2 pini pentru punctele de masura

FIGURA 32

Size	Document Number	REV
A		
Date: January 1, 1980	Sheet 32 of 42	

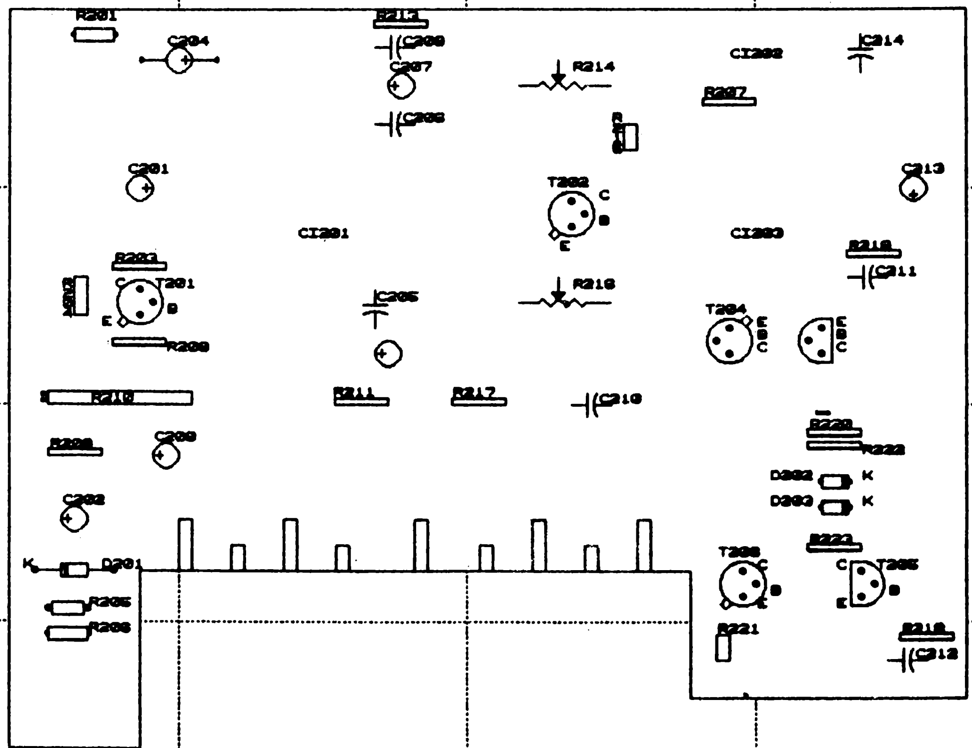


FIGURA 33

Size Document Number REV
A
Date: January 1, 1980 Sheet 33 of

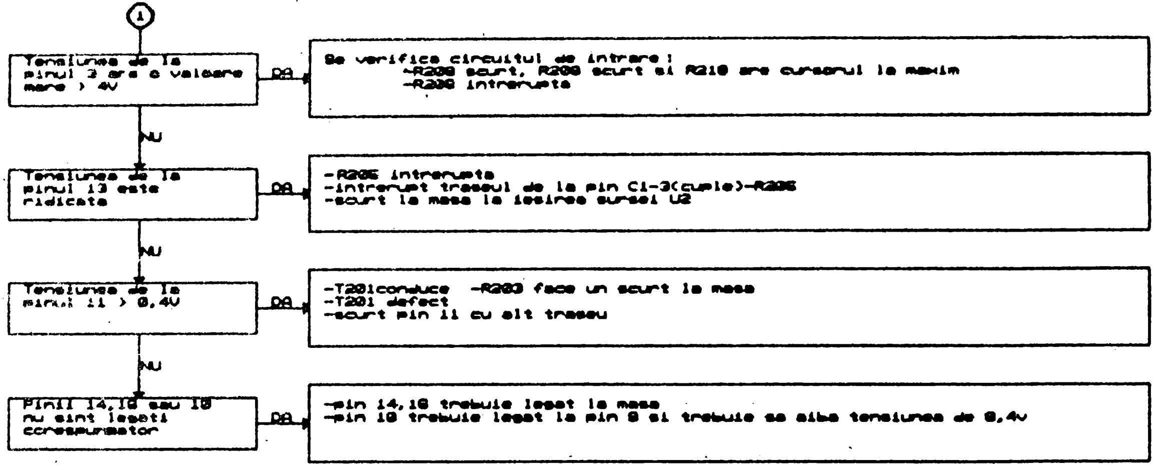


FIGURA 34

Size	Document Number	REV
A		
Date: January 1, 1980	Sheet 34 of 42	

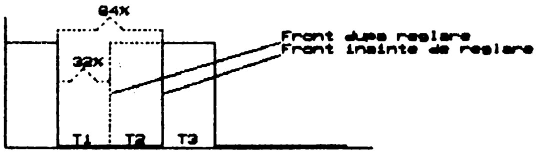


FIGURA 36A

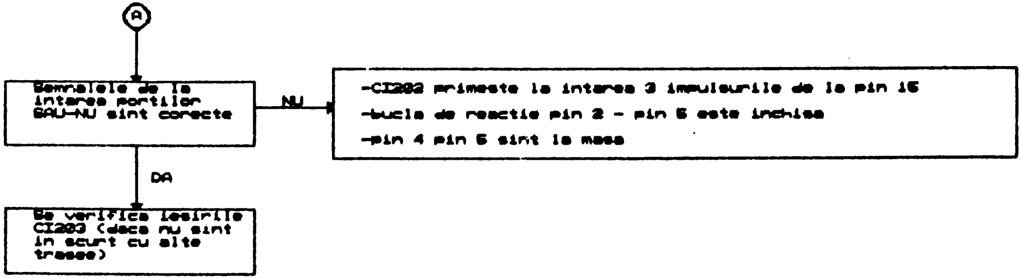


FIGURA 36B

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A		

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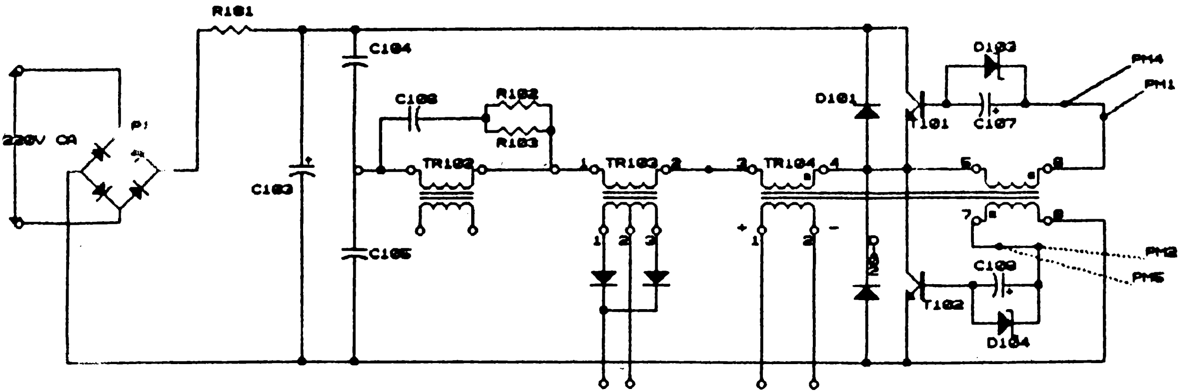


FIGURA 38

Size	Document Number	REV
A		
Date: January 1, 1980	Sheet 38 of 42	

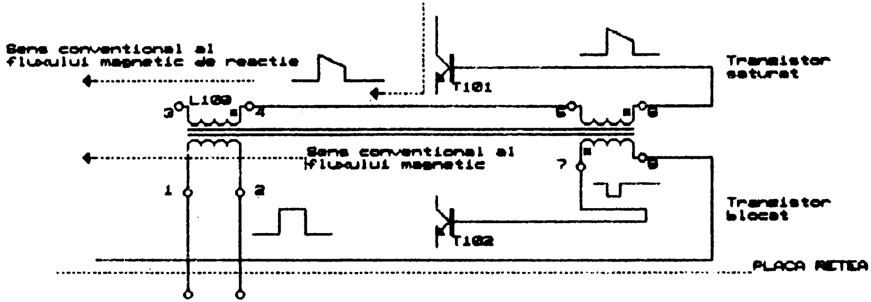


FIGURA 37A

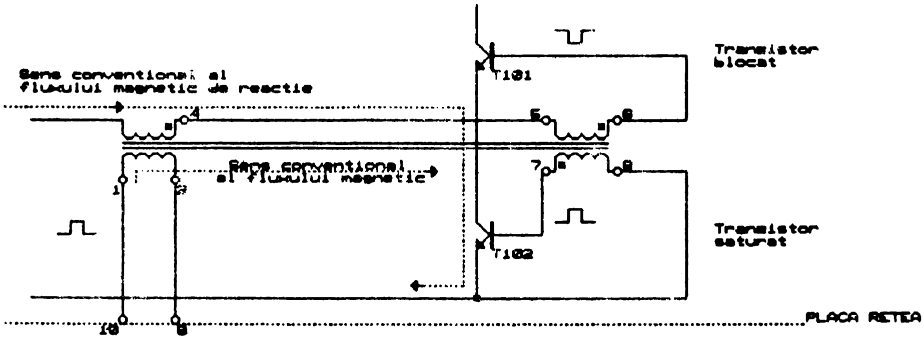


FIGURA 37B

Size	Document Number		REV
A			
Date:	January 1, 1980	Sheet	37 of 43

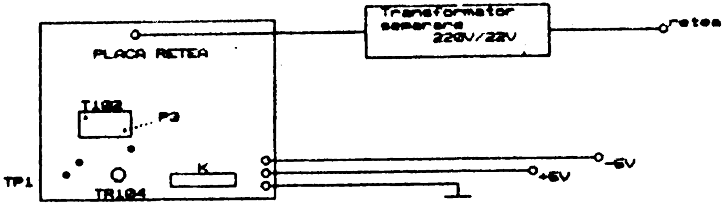


FIGURA 38A

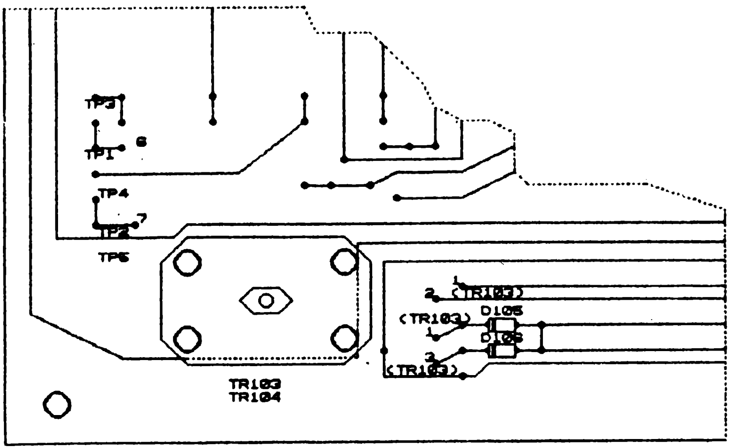
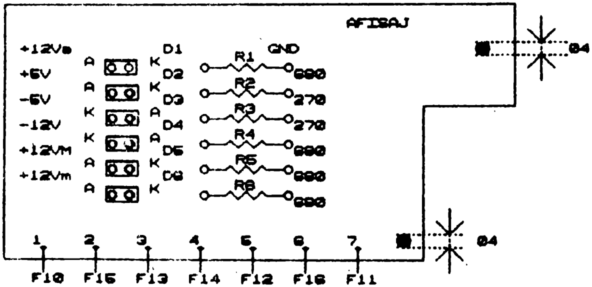


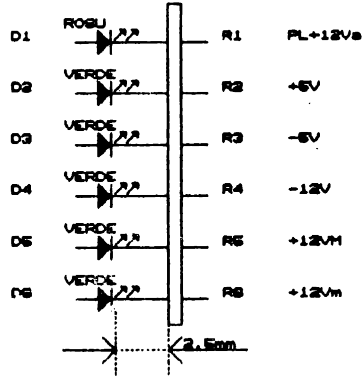
FIGURA 38B

Size	Document Number	REV
A		

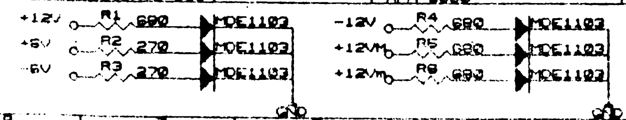
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1- +12V
2- +5V
3- +12Vm
4- +12VM
5- -12V
6- -5V
7- GND



Poz.	Denumirea	Nr.desen sau STAS	Buc.	Material	Observatii	Masa neta
1	Circuit de afisare	8025-2.1.4.3.1-PD	1			
	Schema electrica	8025-2.1.4.3.0-SE	1	----	----	
D6	Dioda electroluminiscenta	MDE 1103	1		MICROEL	
D5	Dioda electroluminiscenta	MDE 1103	1		MICROEL	
D4	Dioda electroluminiscenta	MDE 1103	1		MICROEL	
D3	Dioda electroluminiscenta	MDE 1103	1		MICROEL	
D2	Dioda electroluminiscenta	MDE 1103V	1		MICROEL	
D1	Dioda electroluminiscenta	MDE 1103R	1		MICROEL	
R6	Rezistenta 680\	RPM 3050	1		IPEE	
R5	Rezistenta 680\	RPM 3050	1		IPEE	
R4	Rezistenta 680\	RPM 3050	1		IPEE	
R3	Rezistenta 270\	RPM 3050	1		IPEE	
R2	Rezistenta 270\	RPM 3050	1		IPEE	
R1	Rezistenta 680\	RPM 3050	1		IPEE	



PLACA CIRCUIT DE AFISARE

Size	Document Number	REV
A	8025 - 2.1.4.3.0	

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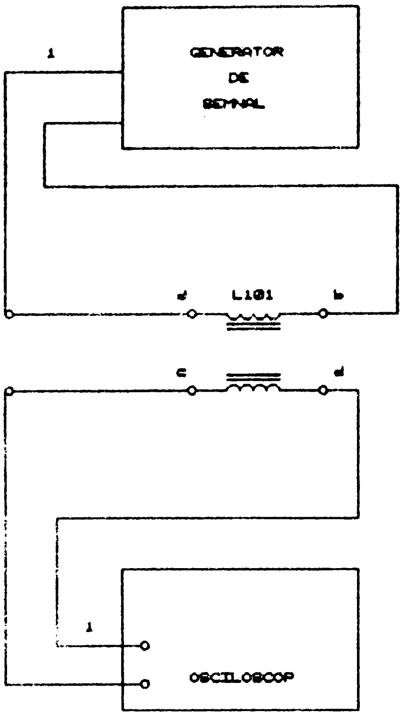


FIG.42A

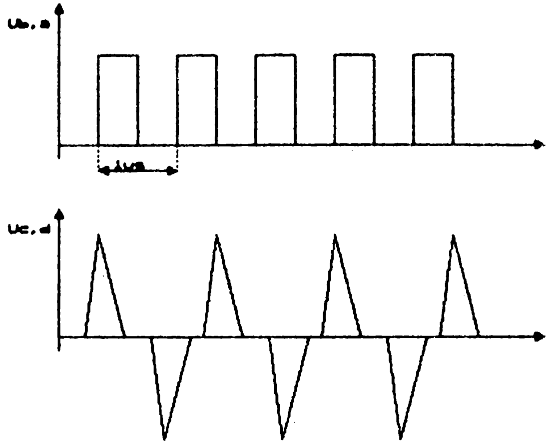


FIG.42B

Size	Document Number	REV
A		
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